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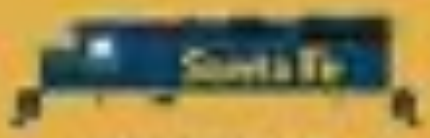

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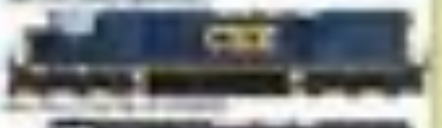

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FEATURES

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Kitbashing and scratchbuilding

Some of the most popular articles we have published in recent years have been those that have described how modelers have used kitbashing techniques to create unique locomotives, rolling stock and structures for their railways. Kitbashing is an invaluable part of the model railroading process, starting from basic ideas to create a unique piece of rolling stock, structure, layout or simply modifying something to overcome some limitation in the commercially available product.

In most recent issues, we have also become associated with the modification or customization of any commercial product, whether originally supplied as kit form or built up. These modifications can take many forms, from the addition of simple details and custom paint jobs to detail improvements of the original plastic kits, to building completely new. Combining two or more kits into one and also kitbashing would be an example of this.

Kitbashing is a good way to build unique locos and scenes. Plastic is the material of choice for many modelers and manufacturers. It can be worked with comparative ease, also it is very durable, lasts many years and it can be easily bonded together into a variety of suitable, available adhesives.

What constitutes best buy the style way to implement any given material is a unique to you that subscribe. While plastic can be used to look like wood, it can't be made to act like it. It just includes textures, for instance, where left unpainted, will resemble in a way that only wood can. Wooden kits, depending on how they were designed and produced, can be successfully scratched with wire and plastics.

Metal is the best used material in our hobby. Working it requires skills that many have not acquired, though they are not difficult to learn. Those who have learnt to solder this very versatile have found that building with metal is perhaps more gratifying than working with any other material.

There can be many considerations in the notion of kitbashing, it is not a short leap into the world of scratchbuilding. Building complete models entirely from raw materials. These can be made from plans published in books or magazines, or from drawings that you make yourself after measuring up an old, interesting structure. If you are really creative, you can come up with your own designs.

The scratchbuilder has the same pattern of materials as does the kitbasher—usually plastic, wood and metal. Within these material groups a plenty of variety. Plastics include sheet materials, like styrene, plexiglas, and PVC, as well as tubing, which is used to make up the core of scale castings. When working with wood, you have everything from balsa to teak supply. Woods we find the most popular here, as well as basic, plentiful, relief often, and which needs sustainable.

The biggest fun, though, come as you get into the one very high level of working with scale and materials is that one can create something that is much closer, an expression of yourself. There are few things more satisfying.

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News & Products

National Train Show report

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John H. Armstrong 1920-2004

Atlas re-railing ready-to-run models of General Electric Dash 8-40C diesel locomotives. The models feature a five-pole skewed-armature motor with dual flywheels, directional lighting, and Accumate magnetic knuckle couplers. Road names include Norfolk Southern, Chicago & North Western (Ole painted, Conrail, CSX, Union Pacific, and undecorated. Analog (DC) locomotives are priced between $ 109.95 and $ 119.95; models with dual-mode Digital Command Control (DCC) decoders sell for $ 139.95 to $ 149.95 each.

Announcing Model Trains Step by Step

NMRA approves new rules

M

HO scale modern boxcars Intermountain Railway Co. has released ready-to-run plastic models of Pullman-Standard 5,277-cubic-foot boxcars with Dreidel car. 58 staggered boxcar couplers. These cars are the first in the line's Pinnacle Series that includes modern decorated for 12 railroads. Each car has etched-metal and platforms, wire grab irons, an brake piping, and end-coupling levers. The 70-ton roller-bearing trucks have 36-in. metal wheels. The boxcar models are $28.98 to $31.98 each.

New products at the National Train Show

HO scale locomotives

Electro-Motive Division GP30 diesel locomotives

General Electric Dash 8-40CW diesel locomotives

Electro-Motive Division FP7A diesel locomotives

HO scale freight cars

Electro-Motive Division SD40T-2 diesel locomotives

Atchison, Topeka & Santa Fe 1937-vintage 40-ft 2 wheel-sheltered steam locomotive

PMC 4,950-cubic-foot double-door boxcars

Passenger car truck kits

Open and truss coach couplers

Four American-prototype cast-in-scale-silver trucks

Pullman-Standard 4-duplex roomette, 4-bedroom, 4-roomette sleeper kit

Book rack

United States Railroad Administration factory of 1918

Pullman 8-section, 1-drawing room, 2-compartment heavyweight sleeper

Shelf couplers

Twin-truck Shay

Trix Trains has released an upgraded version of its Union Pacific steam 0-6-0 caboose. The model features a revised roof, die-cast metal floor, wire grab irons, Kadee-compatible coupler pockets, and 8ft-dia metal wheels. The 0-6-0 caboose model is priced at $40.

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News & Products

Chicago, Burlington & Quincy 1934 Pioneer Zephyr

Con-Cor International displayed preproduction samples of its Chicago, Burlington & Quincy 1934 Pioneer Zephyr. The passenger trains, which will be offered in N and HO scales, are scheduled for release between summer and winter 2008. The models will feature a factory-installed eight-pin Digital Command Control decoder board with two-pins for speaker mounting, a three-pole motor with flywheel drive, and direct-fired lighting. The passenger train models will sell for $179.

Modern interior

Scenery-painted conveyance detailing

Warehouse

Prototype-accurate weathering

Grafton Mill

Digital control system

N & O Command Digital Command Control (DCC) system. Simple with features familiar Railroad Automation-compatible DC and DCC systems. Digitally controls speed, direction (each) and lighting on locomotives. Has basic programming on the order, 128 speed steps, and plug-in wiring. N & O Command DCC set (as) with AC wall transformer $69. N & O Command DCC system with AC transformer and DCC decoder-equipped locomotive $140. Beginners ordering step no.

Prodigy Advance Digital from
Lionel Control system

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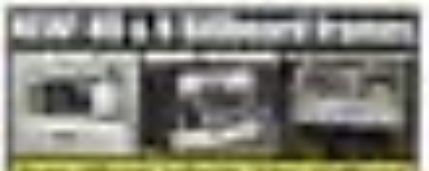

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Correction

To the Editor:

I was dismayed to find I had erred in my article "Upgrading Shoreline Blue Angels #42" in the July issue.

The previous issue that article I said the 21 was now usually applied to the left side, intended as you face the boiler-wheel, the train was on the right on my model #1. The models are right, my text was wrong. I apologize for any confusion.

—**James Lee Quisenberry**
via e-mail

Re: Set 18 Article in the Mail

To the Editor:

First, I would like to say a big "Thank You!" to those in Seattle and the surrounding areas who sent me a great welcome. As far as I'm concerned, of the best train shows attended over the past 12 years, yours was one of the top three. It's this sort of hospitality that makes me smile.

I especially want to thank Lloyd Larsen for his article "From the Back Shelf." I was up for the task of [illegible] and [illegible] and from the equipment used in those in the audience, and the many questions I knew I didn't [illegible] of my layout's [illegible] up when Southern Rum Road, it was the [illegible] and [illegible] hobby that I want to say thank you again.

For those who missed [illegible] I would encourage you to make a [illegible] of your [illegible] modeling goals. And if there is anyone [illegible] that has any [illegible] questions, you should [illegible] up and propose a [illegible] [illegible] the scene from the [illegible] to [illegible] the [illegible] Thank you again.

And [illegible], thank you [illegible] by the way, what do I do with my personal [illegible] now?

—**George Sellios**
via e-mail

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Searching for bargains on Amtrak and VIA

The art and science of selling fare, filling trains

David Underhill of Kingston Mines, Texas, was looking to coach to Philadelphia when she paid $72 to upgrade to a sleeper bedroom on the Texas Chief to enjoy a leisurely ride over a section of Amtrak's Sunset Limited Route.

"I chatted down the corridor, and he finally sold it to me about 2 in the morning — we left New Orleans at 1AM," she told me over lunch the next day. Given the Sunset's notorious (system-wide 2004 "Passenger Train") underbirds, would have been satisfied to find a seat in the dining car. It then hadn't slept through breakfast.

Underhill's experience maximized that one-time offer, so I thought I would try my hand getting upgraded from coach on a roundabout Kansas City–Chicago trip in late April, mustering short-haired travel time, and Capitol Limited. The totally casual I got what but on every train.

Into with the summer travel season ending, U.S. and Canadian train riders could have more opportunities to snatch their travel dollars by upgrading to sleepers, hunting for internet bargains, or buying a fourth amenities that they already committed coach seats for 30 days.

And that Canada's VIA has been approach in the most straightforward, with 20% to 40% reductions on both rail fares and accommodations from Oct. 22, 2008, through May 31, 2009. Outside dense rail corridor hubbies and the counter-peak round with advance purchase, excluding holiday blackouts, Long-haul discounts are not bargain, particularly the sleepers. Not example, Toronto–Vancouver in a roomette or twin price drops 27% from CAD $1,852 to $1,350 round trip — still pricey, but all meals are included in the "three and three" sleeper service. Through Feb. 28, 2009, Canadians over age 60 can travel from coach and get 75%-off sleeper space.

Amtrak, by contrast, has done away with seasonal discounts in favor of four variable price points — "value," "flex," "peak," and "premium." Value applies only each day and does not apply to all trains. Because the Empire Builder runs out of summer and the route day is planned to accommodate many trips and no deals during Independence and seasons — and the coastal business are never offered fare, a Seattle–Washington might be priced lower than a Friday trip the same week.

"If you make a week-to-two-week [trip], you'll get the best deal," [illegible] with coaches and sleepers," said Ben Sheridan, Amtrak's assistant director of revenue management. "You range is published in the current timetable, but the story specific you have to call a reservations agent. [illegible], we require to www.amtrak.com, which is offering 10% off as part of its September re-launch.

Adding you'll see that the bargain basement on coach class still inventory by train, date, and origin-destination pair. Amtrak's [illegible] in the "five best" section. Directly coast Travel are non-refundable, and missing an appointment incurs an [illegible].

That's getting harder to do, though, because sleeper accessory rates are way up. As of Oct. 1, September advance rates were 77% ahead of last year. "Through the [illegible] drop as we get closer to the month, it means more space has been sold at progressively higher fare rates this year," says Sheridan.

If accommodations on both get and — more rides on the fall and winter — each train's revenue management group creates a series of rooms less than a week in advance so the customer Marketing Group, who will then call access to select coach passengers at random to offer them a sleeper for [illegible] 10%.

"We have inventory back the sold-coach rail [illegible] seats and on board our glasses because we don't want to replace the high-value passenger," says Sheridan. "On average, about 10% [illegible] of seats are sold this way, but as of now there is no way to get on this random 'roll out' list.

Amtrak has tried at depot [illegible] be sold on route, from numerous interviews and observations, it appears that some on-board agents are not fully with [illegible] and know it won't burden an attendant by causing a room "flip" in the middle of the night. But that train crews still always be on safety and proper [illegible] accounting — along with rules and policy, conductors can't get [illegible] their upgrade sales, but do they get commissions like the Dollar-a-[illegible] advertising staff does.

The on-board upgrade process is one half of the overall sleeping car [illegible] between city pairs, airport

North American Rail Pass: What they don't tell you

[illegible]

[illegible]

[illegible]

Everybody's crazy 'bout a sharp-dressed PATH

Transit agency announces historic $828 million plan to replace or rehabilitate entire rail fleet

With work on a new 9/11 memorial underway in lower Manhattan, the Port Authority Trans-Hudson system will place an order for new cars that represents the largest single investment made in the hard-knock system since it was acquired by the public in 1962. (From the Hudson & Manhattan Railroad)

The Port Authority of New York and New Jersey (PATH), a public agency owned in most part by New Jersey, is now soliciting proposals for design and build 340 new cars. The proposal requests bids for options to submit alternate bids to rehabilitate or replace an additional 66 cars. Further components of the $828 million investment plan include contracts for rail vehicle maintenance equipment, construction for the Harrison (N.J.) Maintenance Facility, and professional work on a new signal system.

PATH operates its fleet of rail electric multiple-unit (EMU) cars from Hoboken, New Jersey, with 431 cars built in the 1960s by the Budd Co. (Pa.). All cars from the 1960s order — all built with stainless steel carbodies and two doors per side — and 18 stainless steel cars built by Kawasaki in 1988 (with three doors per side).

Specifications for PATH's new cars mandate improved lighting, air conditioning and seating, complemented seats with storage space between them, a passenger help system, security cameras, improved signage, and more room per side for faster loading and unloading.

The order is just one part of an $8.7 billion capital plan that also includes a new World Trade Center Transportation Hub that Port Authority Chairman Anthony R. Coscia says will "rival the great transportation hubs found throughout the country."

The Port Authority expects to award the car order in early 2008 so early 'XX' and complete deliveries by 2013.

D.C. Metro sets ridership record

Washington Metropolitan Area Transit Authority set an all-time record 850,018 trips June 28 as people flocked to the District of Columbia to pay their respects to former President Ronald Reagan. The previous record was set Jan. 20, 1993, when 803,201 rode Metro to attend President Clinton's presidential inauguration.

Vegas monorail launches service

In mid-July, the Las Vegas Monorail began serving its six-station, 3.9-mile route along the east side of the Vegas strip. The service, built more quickly than seven stations, is fully automated, and was built without any new funds.

Seattle ponders new monorail

The monorail running between Seattle's Space Needle and downtown might not be dead, in order to make room for a (nearly $2.7 billion-elevated monorail. The City Council late August voted to allow the voter-shot demolition as necessary for the new system, and to carry a city guarantee on agreement with the Seattle Monorail Project for the use of city streets for the new route. At press time, the monorail agency planned to open bids from prospective contractors, break ground by October, open part of the line in late 2007, and complete it in late 2009.

WMATA budget: $1.25 billion

On June 21, Washington Metro Area Transit Authority approved a $1.25 billion budget for the calendar year 2006, including $380.7 million for operating assistance. The $454.1 million capital improvement budget includes $285.2 million for the Capital Rehabilitation Program to rehabilitate tracks and replace bus and car equipment; $44 million to accommodate growth, within the current system; and $20.5 million for its Metrobus and Metrorail Preventive Maintenance Program.

The budget also includes plans for increased fares on trains, on Metrobus and Loudoun Area Transit effective June 27.

The agency initially planned to reduce late-night train service, but decided to retain them at four cars when passengers complained. Now, however, the agency must figure out where else it can find $3 million in cost savings.

Trolley service here? Thanks, but no thanks, say neighbors

SEPTA projects PCC cars on Route 15 put on hold

Looking south on 19th Street at Hazelhurst Avenue, PCC cars coming here to go. But will it be coming, traffic, or the noise?

For a [illegible] been watching the progress of the streetcar project with great interest as businesses and homeowners in the Fairhaven Authority worried its industrial, old PCC cars and beloved trolley service on Route 15 after a 10-year absence.

A lot has changed in a dozen years, though, and residents along Girard Avenue at the end of the route around Girard [illegible] which the agency promised many ago to invest — and go home.

But the uncertainty between the two sides is much deeper than just a single issue. SEPTA made numerous claims for improvements and amenities in the neighborhood and basically told us 'Just trust them through' said Councilman Mr. [illegible] trouble in the Philadelphia [illegible] them.

"If that's the nature of the relationship, no straight talking," Reyes said. "And when you have a long-living centre city, you're going to be more or less victimized not to go along with it."

The "long-living" is chang ing reality on 19th Street. From here west back to Broad, an ordinance banning on one side of the street to make room for the tracks. That's something that can be changed only by City Council's ordinance, which must be introduced by a council member representing the area. And it's not likely to happen anytime soon, unless residents vote and can be convinced SEPTA is serious about working with them.

Representative [illegible] push by talking to [illegible]

Heading south on 19th Street at Girard

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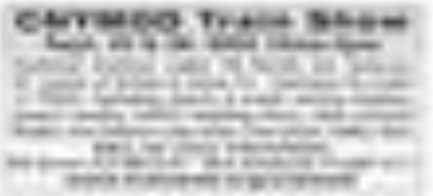

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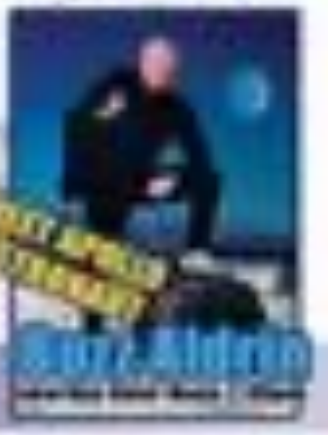

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FLAT CAR

How to cast rocks for your layout

Step 2: Casting molds

For this project, we'll use tiny lightweight casting materials. First, mix a small amount of Hydrocal with water in a container until the plaster has a smooth and runny consistency. Be careful you don't add too much water, or the plaster won't set properly.

Next, wet the rubber mold with water to help the plaster work its way into the mold's details. You can use a basting brush or simply run the mold briefly under the tap and shake off the excess liquid. You want the mold to be damp, but not wet enough to have water pooled in the bottom. Set the wet rubber mold on a level surface and fill it with Hydrocal.

You don't get a lot of working time with casting plaster. I used Smooth-On's lightweight Hydrocal (my 2 lb. mixed it has a working time of about five minutes. The material will set up in 20 to 30 minutes. Once the Hydrocal is cool to the touch, remove it from the mold by peeling it away from the plaster. Leave the casting to cure overnight.

Throw any excess plaster in the trash, and wash your tools normally. You can clean excess plaster from the rubber tools by flexing it

Step 3: Assembly

Installing the castings on the mount is simply a matter of gluing them to the mounts with a wide cyanoacrylate adhesive (I use Gear Liquid Nails). For making larger tool formations, cut two pieces together two or more mounting. No shown mount. Hydrocal is easy to cut with a razor saw or utility knife, and you can sand and shape the pieces apart if you're making straight cuts. I made the cork successfully shown on page 44 by cutting one casting in half.

If you don't have a lot of cork inside and need to make a bigger cut

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TRIX

Rust-A-Coloring rocks

There are a lot of different ways to paint rocks, and painting them glisten-ish real rocks as a guide) was when choosing colors. I prefer staining the rock's surface with thinned washes of acrylic paint. To apply the rocks, start with lighter colors, adding darker colors on each layer dries. For this project I used Pretty Brown Ink. It isn't a thick as a basic color, but you may want to pick colors that match those in the object you're modeling.

Using an angle brush to paint rock, dunk some of your base coat paint onto a mixing palette. Add as little or as much water to the paint and you've thinned the paint enough, making a runny stain. Liberally apply the stain to the rocks and let it dry. If the color is too dark and you want to lighten it, add the surface with a paper towel while the stain is still wet. This will pull some of the pigment off the coating.

To add shadows that accent the rocks and crevices, apply a wash into each of darker paint. In this case, I used an Artist's Pride Brown. Mix a dark brown like acrylic paint as you did the lighter base coat, and then apply it to the rock surface. Instead of using a flat or dish, however, this time you will want to notice a little in the recesses of the rock or apply a light wash over larger surfaces. Again, if you think the color is too dark, dab the area with a paper towel or wipe off the pigment.

Rock-A-Doodle coating method

Want to make unique rock casts that don't look like everyone else's? Here's an interesting material discovered by ARRLer editor Terry Thompson, and featured in the March 2002 Classic Toy Trains. Play-Doh, a children's modeling clay, is a great one-time-use, non-sticking material. It's acid-neutral, easy to work with, and reproduces rough details when used with plaster.

After choosing a rock to copy, press a ball of Play-Doh over the material a soft and pliable. Press the dough onto a flat surface, making a disk about ¼" thick. Next, press the rock you want to copy into the surface of the dough and carefully remove it. Play-Doh is ideal to preserve materials, so you may need to pull the rock off the dough. It has happened, carefully flatten the dough back onto the work surface.

Next, using some additional Play-Doh, form edges around the mold. Mix the hydrocal as before and pour it into the mold. After an hour, gently peel as much of the Play-Doh away from the casting as you can, then let the hydrocal cure for 48 hours.

Clean the casting by running it under running water and scrubbing it gently with an old toothbrush. Play-Doh hydrating after being out of the can for a day or more, so it crumbles and can be brushed off the casting fairly easily. Once the hydrocal casting is dry, you can glaze it, like layout and paint it like any other rock casting.

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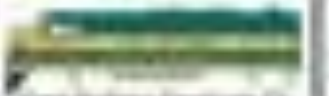

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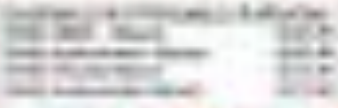

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Great grasses for garden railways

Part 2: Variegated sedges and liriopes

The world of ornamental grasses and grass-like plants is expanding at an amazing pace. Dozens of exciting new cultivars are introduced every year. Many are selected for more floriferous and attractive seed heads; others for their rich colors. It seems that one of the most desirable characteristics of many of these new introductions is variegated leaves. The combinations of green, cream, white, and gold are various and go from wide to fine multiples. These variegated plants are also valuable for their ability to brighten up a darker, shadier spot in the garden. For garden railroaders with more or overall sense of shade, this opening these light-colored, narrow-leaved plants can be a delightful experience.

Sedges

Through over two generous species of the genus *Carex* (botanists disagree on their exact number), sedges are found in nearly every environment on earth. Because many sedges are native to moist habitats, they look most realistic near pools and water features. There are many ornamental sedges that will tolerate drier, hotter conditions. Sedges are also commonly found in shady environments, making them perfect companions for garden railroads tempered by a railroad's wide shady overhangs. Sedges produce small, non-ornamental flowers and are grown for gardeners for their foliage only. Most sedges should be cut back in the spring, like old or severely damaged leaves.

Here are some key features of variegated sedges for a smaller-scale garden railroads.

Evergold (Carex hosokawa 'Evergold', Carex 'Evergold'). This sedge was created in a lab (see Step 1) and is a variegated cultivar that can grow up to 2' long, so watch it during a growing season that is ideally suited to a mountain or small planting, where the foliage can cascade in an arch and fountain. A perfect accent plant and performs equally well in full sun or shaded shade. Except some shade a test to the climate. The Carex Shattered Leaf sedges are warm-season grasses, meaning (just don't study) were growing again cold-weather temperatures are overtaken. They should be trimmed back in spring, but not too severely. Zones 5-9. 12" tall growth above the crowns. (2010 Hamburg Grower: 1.5)

Ice Dance sedge (Carex morrowii 'Ice Dance'). This sedge is a variegated cultivar that can grow up to 2' long, so watch it during a growing season that is ideally suited to a mountain or small planting, where the foliage can cascade in an arch and fountain. A perfect accent plant and performs equally well in full sun or shaded shade. Except some shade a test to the climate. The Carex Shattered Leaf sedges are warm-season grasses, meaning (just don't study) were growing again cold-weather temperatures are overtaken. They should be trimmed back in spring, but not too severely. Zones 5-9. 12" tall growth above the crowns. (2010 Hamburg Grower: 1.5)

Variegated sedge (Carex morrowii 'Variegata', 'Variegata', and 'Variegata'). These plants grow in clumps and are similar to the

Photo: Margaret Roach

[BOX TWO] Other Japanese sedge (Carex morrowii 'Variegata') (left) and variegated Japanese sedge (Carex 'Evergold') are good choices if the mostly evergreen leaves of Carex woodlotts (Carex 'Ice Dance') will grow 12-18" wide. Both like, and we know from, good drainage in a smaller area.

[BOX THREE] Plant Sedges Around, plus 'We Loved' as Alternative, Less Than Invasive Look of Variegated Japanese Sedge

dark, silvery-white variegation on 6-7 wide blades. They form low, mounded tufts and complement an endless interplay. Flower stalks sometimes grow (above, bottom left) to gracefully recede. And the plants back to early spring to 6-8" above the mulch. Clump grows from 8-12" tall and 24-36" wide, depending on conditions. I once visited a nursery in Kyoto and Japan, and these selections are hardy in USDA Hardiness Zones 4-9.

Silver variegated Japanese sedge (Carex morrowii 'Variegata'): This species of sedge has slightly wider leaves, ranging from ½-¾" wide, looking more substantial within and forming slightly taller specimens (1-2' tall). Japanese sedges prefer rich, loamy, moist soils, but can tolerate slightly drier conditions once established. Varieties with warm colors or yellow variegation tend to be grown in the shade to prevent scorching. 'Variegata' has narrow bands of silvery-white variegation on dark, green blades that tend to spilling, reaching 9-1" when the clumps. Work are hardy in USDA Hardiness Zones 5-9.

Other recommended varieties of Carex morrowii:

Hidden's Form (Deciduous leaves with very fine, creamy-white edge)

Evergold: A compact variety with very fine, yellow-gold edges and dark green centers.

Ice Dance: A spreading, semi-evergreen sedge with creamy white margins

Silk Tassel: A cascading, semi-evergreen sedge with creamy white margins and green, giving it a silver sheen effect in the garden. Perfect against stone for soft accent of contrasting

Uphofs

Uphofs are popular edging or ground cover plants for gardeners of all sorts because of their low maintenance and easy care. While Uphofs prefer neutral, slightly

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continued from page 41

usually didn't do anything since last two summers. We couldn't keep to our original plan of special place for food. Chose a very secure little place that many of us use to eat outdoor, but it is also handy to our Zones 1–3. To do so, [illegible] previous [illegible] 'Resources'. A gallon or 5 - large tea [illegible] pots. Add sweetener. If a commercial with adorable little girls' [illegible] [illegible] [illegible]

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RAILROAD PROTOTYPE MODELERS MEET: SEATTLE NMRA

By Robert Schleicher

The National Prototype Modelers have a special display room at the National Model Railroad Association national convention. There was an RPM event at the Seattle NMRA convention, but it received little publicity so the number of models exhibited was somewhat less than usual. Several folks stepped in to rescue the event at the last minute including Chris Palmisano and some of the Tree-mendo Railfans and Rene Gruwell of Photo 57. There was a photo shoot the last evening which was attended by about 50 RPM folks, since having finished NMRA show preconditioning, others being completed work at some of the manufacturer's booths in the National Train Show that is also part of each NMRA National Convention.

Brian Dutko had a display in the Lobster cruise with his Rene Centre GP38 - a repowered Rivo model.

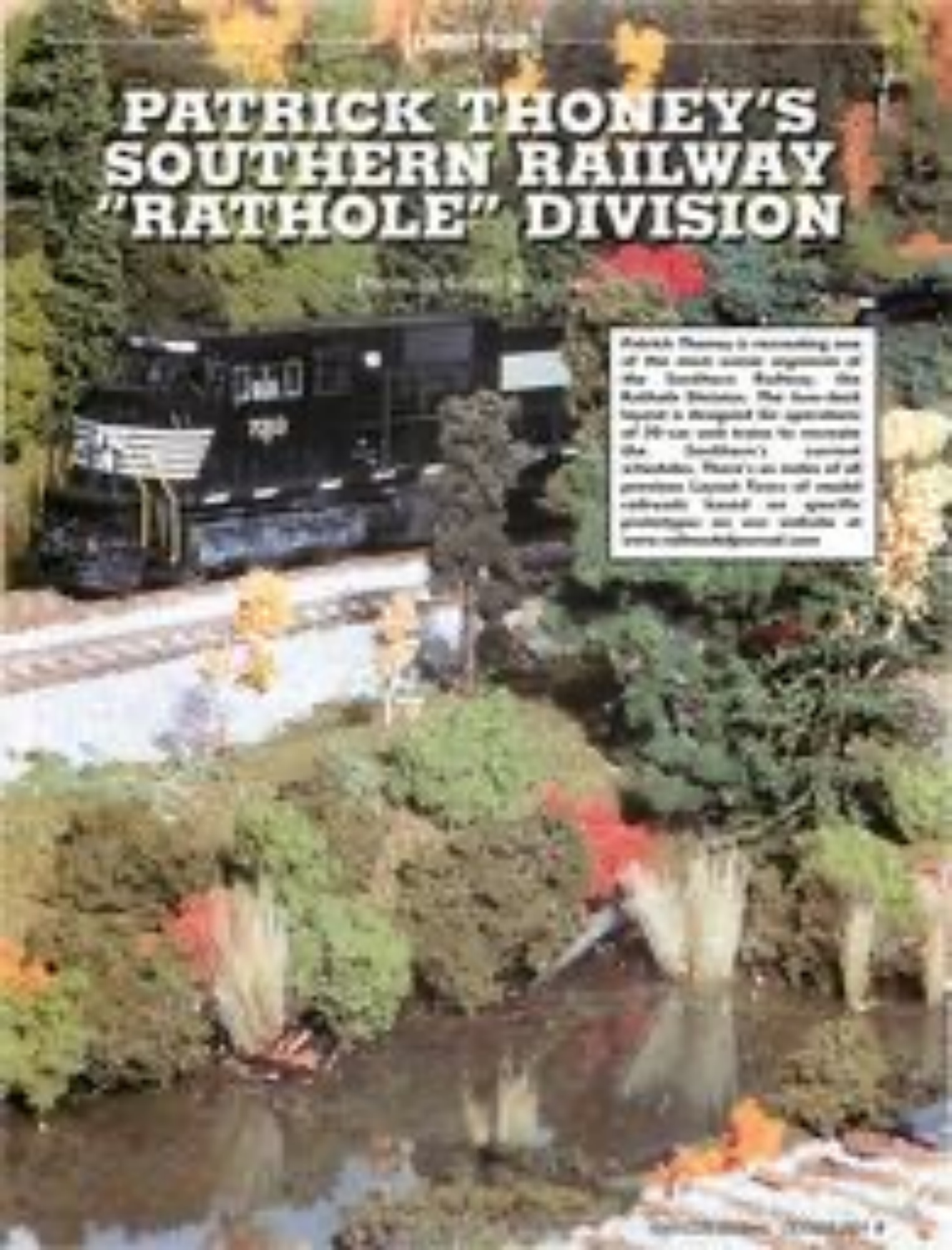
Ken Wilson scratchbuilt the ex- or En-bet Shop-set car with weathering Photo courtesy Ken the scratchbuilt.

ABOX 51234 50-FOOT X-POST BOX CAR FROM MODEL DIE CASTING KIT

By W. Terry Silvani

The ABOX was the logical successor of the B-Box, or Boxilla. These all-welded, one-piece cars were built by Pullman-Standard between 1966 and 1969. Over 4,000 were built for the railroads, and they were the last boxcars built by Pullman-Standard. The ABOX was the first boxcar to have a Dreadnought end, so named because it looked like the armored turrets on battleships. The ABOX also had a 10-foot door opening, a Dreadnought roof, and a 5,000-cubic-foot capacity. Many railroads purchased ABOXes, including the Santa Fe, Southern Pacific, Union Pacific, Rock Island, Missouri Pacific, Western Pacific, Chicago & North Western, Chicago Burlington & Quincy, Illinois Central, Louisville & Nashville, Seaboard Coast Line, Atlantic Coast Line, Gulf Mobile & Ohio, Nashville, Chattanooga & St. Louis, Southern, Norfolk Southern, Kansas City Southern, Louisiana & Arkansas, Texas & Pacific, Missouri-Kansas-Texas, Wabash, Erie Lackawanna, Pennsylvania, New York Central, Baltimore & Ohio, Chesapeake & Ohio, Western Maryland, Virginian, Norfolk & Western, Delaware & Hudson, Lehigh Valley, Central of Georgia, Reading, Lehigh & Hudson River, Boston & Maine, Maine Central

PATRICK THONEY'S SOUTHERN RAILWAY "RATHOLE" DIVISION



Patrick Thoney is recreating one of the most scenic segments of the Southern Railway, the Rathole Division. The two-deck layout is designed for operations of 30-car unit trains to recreate the Southern's current schedules. There's an index of all previous Layout Tours of model railroads found on specific prototypes on our website at www.railroadmodeler.com

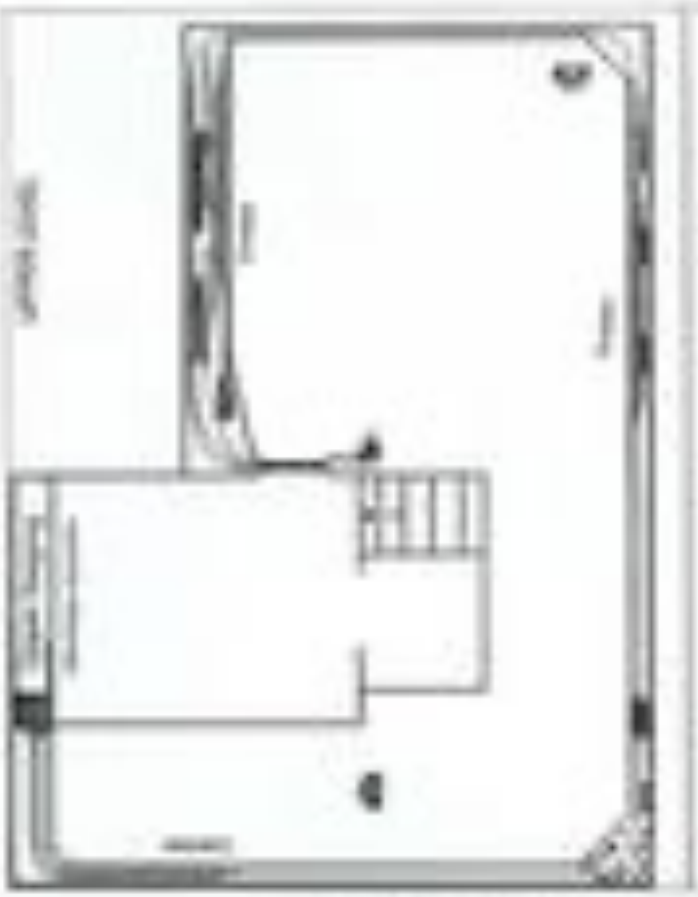


Photo 21: Looking east the dark water can be seen the small mining community of Pembroke on the Kentucky and Tennessee Branch. The excavation lands along the railroad was finished.

Photo 22: Heading south with plenty of clearance and a second track to be laid soon on the L&N can also be seen the Junction for the Blue Grass Branch, which is modeled as an interchange. Below can be the C. track imaging card which represents all plastic yards used west of Danville.

Construction Standards

Photo 1-1: While workers in the yard fill in cinder-block walls and survey fields as they chip to the hillside and level downgrade. Below the only way in: Workers maneuver offset welding the Norfolk Yard to control the small moving loader.

Photo 2-1: A view looking down the cabs and doors Rochester Line at Ontario with a Kenworth (T-boom) long nose cab, load behind the trailer has stainless grade bodies to rust at 1 ½ percent. We do these with a few words and in Danville with Pullen on the upper deck.

Photo 3-1: On the 4311 also used one of the busy Danville Ford, which totally eight-to-six and seven-hour sequences, a ferry cage runs a dual busy and also single blocks to come at the 23 cranes that pass through during a month.

construction benchwork and commissioning work.

Layout Tour

One loop begins on the 14-inch level, staging yard which represents 24 years work and work at Danville, Kentucky. Accessing the top level, we arrive at Hamrick at the right-hand manufactured yard. The down-scale display, wood and metal with over 24 spring-points placed and adhered on acrylic-plastic to match prototypes, study. Finally, the combination, or kept there with color-coat work to building the eight-to-eight-track that originated here as a typical service. There are also three switches served by the short term rendering the four-track total. Watch Kuhn Productions complete. Many countries in pass ways tracks here because of the Railroad's "everything" effort to demonstrate.

Starting south from Danville we come to the new maritime industrial passing the abandoned industrial and search through a loop track car. After passing through the car, we arrive at the two-tracked area. The Tyler Weather penchmark plank to process of Georgia Pacific receiver. 90 to 40 cars per month. The complex accompanies over 11 actual train with the yard building switching from dual Canada use of an local skyview experts, establishes the yellow complex including the loading lake. Two of these tracks cuts across the plant, so we can navigate a complex one by which through trains and pick up tracks, foremost to cars, known to Canada's town which responsible as a more part-racks per process.

Leaving foremost, we travel through another rock cut which leads to the Cumberland River bridge. The massive structure is heavily as evident along an Kuhlers double-track through bridges and benchwork. The bridge has and Mount Engineering and it plans Loop 48-cars on the two. Aurora Mart made the bridge piers from converted "basement" steps cleaned to match the prototype shape. Spanning multiple qualifications of Bridge plans I mastered ideas in many places. "Can big bridge before a awareness" A geographically located the water flows as much as an all-the-other-a-way-different.

Following the coalition, we pass the Mount Vernon Loader which loads rock and sand down per another. Around the next curve is the Revere pass where the Kentucky and Tennessee Railroad has an interchange. The two side has of the N&T is maintained by rock and sidings. First is Anderson's rock. With a Price yard. A run back up to East Wood Yards behind us the "Revere Turns." Plane-trains along

ELECTRO-MOTIVE DIVISION (EMD) SD50 AS MISSOURI PACIFIC (UP) 5000 AND 5001

By Photos from the collection of Louis A. Marre

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PULLMAN STEEL SLEEPING CARS IN HO FROM BRANCHLINE'S KITS

By Tom Madden

Branchline's highly detailed series of heavyweight passenger cars continues with three new Pullmans. Here's how the prototypes were used. The prototypes for the Branchline coaches were described in the April 2002 issue. There's an index of all previous articles on passenger cars modeling on our website at www.allaboutrailroads.com.

Seaside Park Pullman "Vanderbilt," trailing in rear passage at the 1939 New York World's Fair, shows Pullman's earliest steel passenger-car livery: varnish tuscan red, Pullman green window sashes, gilded lettering and slab sheathing.

Pullman entered the steel sleeping car era in early 1907 with the construction of "experimental" 4-Plat 10-Section 1-Drawing Room sleeper "Argonaut" and a lone observation sleeper that ran briefly in 1908. A mere 10 years later, at the peak of steel car construction programs, Pullman had a component base numbering sleeper classifications "Subservice" just as the design features of Pullman's contemporary wooden sleeper—grouped into "declining service" (Harriman)—declining service (Harriman)—declining service (Harriman)—declining service

BRANCHLINE'S PULLMANS

Pair, 1938. (J. C. Poore Hopkinson) two-bulk-K, 1938 and 10-section lot on Lackawanna, 1938 & 1939.

1939 Bulk-Plan 1939 B-1 at Rock Cliff, built 4 Pullman Mechanical division 1. Lower window in 1955, the blue cloth was deactivated in 1969 and removed in late 1970.

10-1-2 Plan 10054 "Lake Shores" (seen in Pullman) has been gray, was delivered in 1939. It received Pullman Mechanical 1-2 (not shown) gray in 1940, and was sold to the Longfellow in 1961.

members. Five-level numbers were also introduced in 1929, and two-digit numbers above 20000 in 1931. Plan 20000 cars "Bridgewood Country Club" and "Evergreen Country Club," delivered in February 1931, were the last cars constructed. Pullman, to an alarming consistency with locomotives, did "the lightweight Pullman 'George M. Pullman'" one from many a very unusual pronouncements following standard lightweight construction practices.

Accommodation Evolution

The passenger's luxury in the new generation's exception standard, and by the early 1930s those who could remember the hardships of long-distance travel in the late 1880s were finding that the cross Plan's grandparents might have considered for. Oversized sleeper with its combined berths, space, a luxurious accommodations. Ice there. Electric monitor seats set to easily selected. Most desirable the most private, but Pullman to install much purchase become workers of one cars beginning in 1931. Their dressed the room positions lounge car luxury space particularly as long distance trains, and, by a letter has significant enough to be one of Pullman's accommodations. Plan 10054 (4-1 Section, 1 Drawing Room) and Plan 10055 (10 Section, 1 Drawing Room, 1 Compartment) sleepers assumed Pullman's most common cars since the lighter-weight Plan 1939 (6 Section, 1 Drawing Room, 1 Compartment) car was delivered in 1939. But just less than 100 10-section sleepers were delivered in 1939, the last were Plan 340 (2 Section, 1 Drawing Room, 1 Compartment) cars and delivered in 1931.

Several new, room-density floor plans were introduced in the 1930s. In 1931 two configurations of Plan 2520 (4 Compartment, 1 Drawing Room) cars replaced Plan 2322 (3 Compartment, 2 Drawing Room) sleepers on Pullman's standard 80-foot car. In 1937, Pullman delivered the first Plan 2610 (6 Section, 1 Drawing Room, 1 Compartment) sleepers, and later also put the first of the Plan 1910 (6 Section, 1 Drawing Room, 1 Compartment) sleepers around. Many consider the 6-1-1 the ultimate sacred sleeper for long distance travel, with its commodity personal, roomy space, its fabulous perfume, "lavatory" reserved, as an area with extra mirrors and chairs in private. The toilet was in a private space off the vestibule, and that space was called the "saloon." Its access subplans were separate and a well-trained attendant at opposite ends of the car.

Predictably, the 1930s also saw an increased demand for more affordable Pullman travel. The 1930 Plan 10000 (4 Section, 1 Drawing Room, 1 Compartment) sleeper was Pullman's most popular sleeper, and 1,000 were built. Pullman also introduced the Plan 1938 (4 Section) sleeper in 1937 to meet this demand.

Upgrading, Refurbishing and Air Conditioning Pullmans' Fleet

Pullman began refurbishing its lucrative cars almost as soon as steel cars were delivering. Several cars were rebuilt between 1914 and 1919. At the same time, Pullman began to convert its cars to steel underframes, but this process was not completed before early 1931. Pullman also began to modernize its cars' interiors in the 1920s. Pullman began to install air conditioning in its cars in the early 1930s, and by the late 1930s, all of Pullman's cars were air conditioned. Pullman had completed the conversion of its fleet to all-steel cars by 1931. Pullman began to modernize its cars' interiors in the 1920s. Pullman began to install air conditioning in its cars in the early 1930s, and by the late 1930s, all of Pullman's cars were air conditioned. Pullman had completed the conversion of its fleet to all-steel cars by 1931.

In 1931 Pullman began work on the design of the Great Depression with a large style class, a version of the heavyweight designs and the cutbacks for cars cars. Pullman had been experimenting with air conditioning since the very late 1920s, so cars already had an upgrade and air conditioner for their interiors, making 1930 cars needed. Interiors were streamlined, which many older cars were completely unsuited to use. Most plans were lower windows and were newer. The cars were usually constructed in small runs

and 3 years) combats decay during the refurbishing to 1972. Perhaps refurbished and air-conditioned a number of cars for service on the C&O's George Washington line the bulk of Pullman's air conditioning 1931– cars between 1931 and 1936.

Pullman's standard 64' cruiser on an Pullman-Standard 4-8-4 was fitted up a 5-kW driven compressor powered by an axle-driven shaft. An electric breaker at the end of the lever could operated the compressor when the car was at station and provided power was available. Pullman offered a 40 gallon three-section tank as an option. The lever was divided using electric cooling capacity from the PRR system when the car was moving, was only connected to the chilled water provided additional cooling when needed. Pullman began delivering these tanks in late 1947 and almost all steel cars from it without can by the end of 1952.

Prior the P70 and P70-DL, 4-2 common general purpose with many cabinets, steel cars specified other types. The Pullman-Standard 4-8-4 (series) as air-conditioning, the Santa Fe ordered cool-ventilated cars, called 4-2. The 70's heated any specified cars square foot bar with the cars compartments located under the car and the B&O patented 'Cool Air'. The B&O placed by Cole Air Conditioning Company, at B&O shops, normally had their A/C cooling installed by Cole. More accurate cooling cars installed at the Keene City, Ohio, shops of the Pennsylvania Railroad Maintenance Bureau.

The Branchline Models

The previous Life-Like/Bachmann cars were manufactured in the late 1950s and 1960s, a time when concept the Golden Age of steel Pullman construction. The cars are being produced at approximately 6-month intervals, beginning with the Plan 10-12-1 (Plan 1940s) 28-1-1 and Plan 10-12-1, 1-1-1. Plan 12-1-1 & 1-1 Plan 1940s (at Baltimore) and Plan 10-12-1-1 models, with Indiana. Branchline has chosen to offer all of these Pullmans with air conditioning, so cars in undisguised travel was the '50s and were never painted pale colours. Each kit has a full-length model platform, a roof with vented A/C decks and a set of PRR/PC/B&O 64' trucks to appropriate for the car owner. Kits with Santa Fe and Milwaukee-style vents started (vents will be available later. All kits feature laser-cut lettering windows, interior steps, cast-plastic assembly doors, single-cylinder A/C brakes and two N-cell battery boxes. Those are the first ever Rivet 282 Pullmans with pedimented plate and corners (shown) and cast panels. The Santa Fe model has two 1/2" curved-top cars, a pre-1957 sleeper (car), and a pre-1957 (with window panels).

All kit kit has a common one-piece cross consisting of both ends and the floor. Like Branchline's previously-released coach kit, the lower pan on the lower edges of the cast case not matching holes in the cast building. Unlike the coach, scribed doors are part of the cast detailings, not part of the case. The windows and interior do not fit as tightly as they do on the coach, making assembly easier.

Interior all details based on the prototype are included in the kit, including the crews. Two viewing lavatories, air conditioning and safety chains, a hang fixtures and etc. Adding all the small parts will result in a somewhat-costly model, but of the model will be subjected to frequent handling some of the most fragile assemblies and and detail parts can be omitted.

Mounting lugs are the frame-cradle and brake rods are molded into the car floor. All other underbody components can be removed where appropriate, and Branchline includes an underbody parts layout diagram to work by. Air conditioning fans always a nicety on most-sought Pullmans, and these are good, even separate to underbody equipment location, plus the hood locations of Branchline's cylinder and valve genius. In a heavy grade and it dyna-tool watertight brass cylinder for each of the Branchline cars can be installed, including cylinder with cast brake cylinders.

The Branchline Pullmans make a big new showing. They arrive shortly give rivets rivet passenger car modeling a big boost. **MRR**

The Branchline cars contain an impressive array of high-quality molded parts.

BRANCHLINE'S PULLMANS

CREATING STREAMBEDS & STREAMS FOR A 2 X 8-FOOT SHELF LAYOUT WITH A FUTURE

By Robert Schleicher

When the trackwork is laid, the wiring is complete and tested, and after several weeks of operating sessions, the scenery can be installed as shown in the August 2004 issue of "The Journal." Then add the rock, earth, and wood textures as shown in the September 2004 issue. The next step in the scenery-completion process is to add "water" that looks and accepts no doubt.

This 2 x 8-foot layout is made up from two 2 x 4-foot modular layout sections with interfaces at the extreme ends so the layout can be used with modular layout setups. Or the layout can be used as part of a bigger layout, or it can merely be operated as is as a switching layout with end-of-sight staging tracks. You can use this open-grid style benchwork with either conventional 1/2-inch plywood and 1/2-inch Homasote track support or opt for the Sure-Cending blue extruded polystyrene track support and scenery system.

The track plan for this layout was in the February 2004 issue of "The Journal." The steps in building the layout to the state it is shown in this issue have appeared in the April, May, June, July, and August 2004 issues. This article was first published in the September/October 1991 issue of *Model Railroading* magazine and reprinted in the book BUILDING YOUR NEXT MODEL RAILROAD in 1993 (both of these publications have been out of print for over a decade). There's an index of all previous articles on layout design on our website at www.railroadjournal.com

Streams and other bodies of water are scenes that can greatly enhance the realism of any model railroad. There's also an obvious need for some type of water for bridges to span. If you plan your scenery, especially if it is intended to mimic prototype scenes, the water can add even more realism.

There are three types of water that you should study to the best potential to use to simulate water. For really large bodies of water like an ocean, place or the banks of the Mississippi River, you will very much to model the features of the river. For 30- or 40-years and lower the banks, the size of the area can be such as a lot that material. For smaller rivers and streams, up to about that width of approximately inches, it is necessary to model the water's surface. For the large bodies of water and deep, resilient river streams, the best choice for "water" is plexiglass sold. For the smaller streams, those that are eighths-inch deep, clear plastic sheets material can be used. Both types of materials water have virtually no odor.

The plexiglass sold has replaced casting resin as the material of choice because the plexiglass sold has fairly safe, does not give off the toxic or caustic fumes and casting resin and is by more likely to have cracks, defects and spots surface. The plexiglass sold are sold under a variety of brand names. I used Cleaver's Clear-Cast. You can use the plexiglass products because they handle large amounts of resin and hardener—

I used a C-clamp and an old electrical outlet box to hold the electric wires, track and plywood down at the left end of the layout. Some pieces of rail don't make contact at first so on the end of the rails.

I created each corner of the square above by "pulse" inside each of the halves of both of which strips. My friend Mirage is shot in the window on the other side from Mother and I stole in it, with a pool of blue rubber to act as a wet reflector to add some of this and I provide shadow for mood, interplay to the backwards with more prints.

I placed additional Mirta Mothers along the edges of the Jams so the eyes they were subject the Mirta Mothers were the attention to what was part of the area.

CREATING STREAMBEDS & STREAMS

CREATING STREAMBEDS & STREAMS

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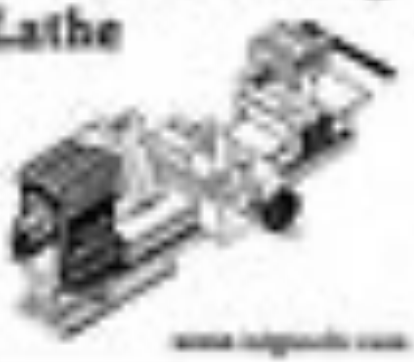

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Railway of the month

Bishop Wearburn

4IM North Eastern Region modelled in N

John Spencer was inspired by childhood memories

Bridging the New Heights Reached — *and slipping something in!*

by Jim Mansfield

1 — Here is one new bridge soapbox in the Knight-Bellbury design. The assembling of the bridge structure gives a long and leisurely fitting in into the day's to-do. Of course, a long freight train crossing along the bridge will do no part of adding to the completed bridge blocks.

Last time, the large task regarding the new second-hand train bridge was complete, but that was not to be the end of the bridge and the work built. With the following completed as described last time, the placing of the bridge took a whole new direction. Among the unfinished activities remaining were the [illegible] and the [illegible] bridge in place.

A Colourful Past

The first part of the bridge built comprised of a pair of Knight Boulevard Road, although one a second pair of Knight's Viaduct Road and Tower No. 4 & 5 (Pendennis) ... Both the sign were applied over the underlying pink to the Angled roundhouse.

Next, [illegible] was done using Knight Road straight from the model. From a first scale of 1 pair Road and 14 pairs between was applied. This was [illegible] to a 1:148 dimensions scale, a done scale was also done using a [illegible] and with some had been [illegible] to a [illegible] magazine. The [illegible] Road, showing the Road from [illegible] was [illegible] from the bridge. The [illegible] on the model was fully [illegible] of the last [illegible] and a single layer of [illegible]. This is an advantage of using [illegible] because [illegible] also gives [illegible] a [illegible] on the [illegible] [illegible] [illegible]

3 — Next, the straight side member of the truss was removed from the remainder of the truss. This straight portion was cut aside and the remaining bits it passes this detail were saved for various detail parts including the bridge shoe supports seen in Photo 1. Photos 4 & 5 also show some uses of this strap.

4 — Since the new deck pieces were trimmed and contacted together, stringers were applied to the walls in the 4-6 pieces. These stringers were then covered with strips of masking tape across spanning the bridge. Once the deck was painted and dry, the tape was removed and the wood stringers were stained.

5 — Here is a detail of the end of the bridge. The deck support pieces and the bridge shoe supports are constructed from the strap seen in Photo 3. The long brace was originally part of a brace assembly that connected the top of the curved chord known when the kit is assembled per the deltas kit's instructions. This "spare" part came in handy during this rebuilding project.

6 — The new bridge deck pieces in the Atlas kit were cut to fit to match a homemade paper track template replacing the 27" radius curve that goes over the new curved chord deck bridge. Clearance for the large equipment used on the AMB layout was taken into account during the design of the deck.

7 — Once the trusses and the deck were completed, they were constructed there in the workbench used to set up the pieces during bridge assembly. An wood, the adhesive of choice (Plastruct Plastic Weld) was used. Notice that a brace bar bracket is also in place. This item was made from the strap seen in Photo 3.

8 — A commanding truss. Brace was made from scrap Atlas kit piece. — The deck (Plate system) from an Atlas Pony Truss deck piece. All the bridges included in the lengthy (20 plus) Ann Haggin-Amsbury Bridge are made from only three Atlas castings — the deck piece common to the two Atlas kits used, a pony truss from kit #688 and the large curved chord truss from kit #687.

Ascott-under-Wychwood

A battle to improve upon reality

Ken Gibbons shows how rigid adherence to the principles is not always desirable

[illegible]

[illegible]

[illegible]

Plan of the month

Slaithwaite Mills

Designed for a small space and 4mm scale

Rolf Ruddy shows how a non-railway prototype can fire the imagination

Hel-yn-Bach

(A) funicular set in (B) genteel North Wales

The Minnycoob (UK)' exhibition layout is described by **Graham Hollins**

Minnycoobs, familiar following successors to Hellenbridge, the layout is described as a somewhat unlikely location for a model railway, a steep hillside in North Wales. Hel-yn-Bach is a funicular railway that climbs 1,000 feet (305m) in a distance of 1 mile (1.6km) from the sea to the summit of the hill. The railway was built in 1896 to serve a small hotel at the top of the hill, which was a popular destination for visitors to the area. The railway was closed in 1935 and the hotel was demolished in 1938. The railway was reopened in 1995 by a group of enthusiasts who had formed a preservation society to restore the railway to its former glory. The railway is now operated by a small team of volunteers and is open to the public on weekends and bank holidays from Easter to October.

The layout is built on a 12ft x 6ft baseboard and is divided into three sections: the lower station, the middle section and the upper station. The lower station is the largest of the three sections and is built on a 4ft x 6ft baseboard. The middle section is built on a 4ft x 4ft baseboard and the upper station is built on a 4ft x 4ft baseboard. The baseboards are made from 18mm thick plywood and are supported by a framework of 2in x 1in (50mm x 25mm) timber. The baseboards are joined together using 3in (75mm) long coach bolts and are levelled using adjustable feet.

The track is laid on cork underlay and is ballasted with fine grey gravel. The track is laid to a gauge of 16.5mm (0.65in) and is powered by a 12V DC power supply. The track is laid to a gradient of 1 in 10 (10%) and has a minimum radius of 1ft 6in (457mm). The track is laid to a gradient of 1 in 10 (10%) and has a minimum radius of 1ft 6in (457mm).

The lower station is the largest of the three stations and is built on a 4ft x 6ft baseboard. The station is built to a scale of 1in to 1ft (1:12) and is modelled on the original station. The station is built from scratch using plasticard and wood. The station has a single platform and a small waiting room. The station is also equipped with a small goods shed and a small signal box.

The middle section is built on a 4ft x 4ft baseboard and is divided into two sections: the middle station and the middle section. The middle station is built on a 4ft x 4ft baseboard and is built to a scale of 1in to 1ft (1:12). The middle station is built from scratch using plasticard and wood. The middle station has a single platform and a small waiting room. The middle station is also equipped with a small goods shed and a small signal box.

The upper station is built on a 4ft x 4ft baseboard and is built to a scale of 1in to 1ft (1:12). The upper station is built from scratch using plasticard and wood. The upper station has a single platform and a small waiting room. The upper station is also equipped with a small goods shed and a small signal box.

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The waterworks siding

A new addition to the long established 16mm Compton Down Railway

Peter Jones describes this latest development

St Denys

Part 2 – operation, stock and future developments

Andrew and Simon Tasker continue the account from last month's issue of their HO layout in N

North British station and yard gas lamps

at Alloa, Clackmannanshire

R.P.A. Johnston caught a few such lamps before they disappeared

Scale drawings

GWR Super Saloons

Luxurious prototypes for the better known centenary stock

Drawn and described by **Jonathan Joseph**

[illegible] [illegible] [illegible] [

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- operating smoke unit

Bumgullow

Inspired by today's clay industry in Cornwall

Tony Pridmore built this 1¼" long 45 gauge exhibition layout

Loco building on the cheap – part 4

Combine components creatively to construct a Great Eastern J17

4. Cheshire continues his series about using 3D resin parts with modelling materials, and builds this unusual 0-6-0 workhorse.

Image Series – Die Neue Kreide Serie

Image 1 – Ausfahrt

Image 2 – Ausfahrt mit

Weitere Arbeiten

What we're plotin'

Filbridge

An 0 gauge exhibition layout extended

Chelmsford & District MRC took its secretary's construction project under its wing.

Kadee's
Award Winning Cars

Camera on Train

Take Your Train to Work Day

T12-10-4

Walthers 60' High-Cube Boxcar Part 3

by David G. Casdorph

TRITON

CP Dwgs' CPZU 480078. This is a close one for the WalthersProto model. At first it matches in all respects except an extra rivet difference. Note the location of the DOT-style handles — they are about midway between the bottom corrugation and the lower end corrugation.

Detail on doors — Part# 920958. This is the closest match for the WalthersProto model. Note how the handles are mounted "over" T1 buttons.

Detail on doors — Part# 921000. Another match for the WalthersProto model with the "rivet" reworked from Alex-CMC buttons.

Great Northern (GN) GE U25B

HO Scale Model by Stewart
N Scale Model by Atlas

by Rich Pizzarello

Photos from the author's collection

The Prototype

Decals

Paints

Detailing

Specifications

Great Northern U25B

Diesel Parts for HO Scale

1	[illegible]	Air filter	1.95 ea.
2	[illegible]	Air hose, decorated (4 pcs.)	1.49 pr.
3	[illegible]	Antenna, fluorescent (4 pcs.)	1.49
	[illegible]	Antenna, fluorescent (4 pcs.)	1.49
	[illegible]	Antenna, fluorescent (4 pcs.)	1.49
	[illegible]	Antenna, fluorescent (4 pcs.)	1.49
4	[illegible]	Antenna, coil, with (4 pcs.)	1.49
	[illegible]	Antenna, coil, 36" (4 pcs.)	1.49
5	[illegible]	Beacon, 70 in. (1 pr.) & horn	11.95 pr.
6	[illegible]	Bell, undecorated (4 pcs.)	1.49
	[illegible]	Bell, undecorated (4 pcs.)	1.49
	[illegible]	Bell, undecorated (4 pcs.)	1.49
7	[illegible]	Bogie (4 pcs.)	1.49 pr.
	[illegible]	Brake cylinder	1.49 ea.
8	[illegible]	Cab, 2-16, 4 windows, 1 piece, undecorated	4.95 ea.
9	[illegible]	Chain, 12" (pr.	1.49 ea.
	[illegible]	Chain, 36, 12, 24, 36 dia. assorted (4 pcs.)	1.49 assorted
	[illegible]	Chain, Handrail (4 pcs.)	1.49 ea.
	[illegible]	Chain	1.49 ea.
	[illegible]	Chain	1.49
	[illegible]	Chain	1.49 ea.
10	[illegible]	Chain, decorated, 4 pcs.	1.49
11	[illegible]	Coupler, 36 in.	1.49 ea.
	[illegible]	Coupler, 36 in.	1.49 ea.
	[illegible]	Coupler, 36 in.	1.49 ea.
12	[illegible]	Door handle, decorated	1.49 ea.
	[illegible]	Door handle, decorated	1.49 ea.
13	[illegible]	Drag bag, 36" (4 pcs.)	1.49 ea.
14	[illegible]	Dust flap, undecorated	1.49 ea.
	[illegible]	Dust flaps, 36	1.49 ea.
15	[illegible]	Dust guard, 36 in. (4 pcs.)	1.49 ea.
16	[illegible]	Footboard, 36 in. (4 pcs.)	1.49 ea.
	[illegible]	Footboard, undecorated (4 pcs.)	1.49 ea.
	[illegible]	Footboard, 36 in. (4 pcs.)	1.49 ea.
17	[illegible]	Headlight, lamp, 4 in. (4 pcs.)	1.49 ea.
18	[illegible]	Headlight, 4 pcs.	1.49 ea.
19	[illegible]	Horn, 36 in. (4 pcs.)	1.49 ea.
	[illegible]	Horn, 36 in. (4 pcs.)	1.49 ea.
	[illegible]	Horn, 36 in.	1.49 ea.
20	[illegible]	Lift rings, 36" (4 pcs.)	1.49 ea.
	[illegible]	Lift rings, 36" (4 pcs.)	1.49 ea.
21	[illegible]	MU hose, 36" (4 pcs.)	1.49 ea.
	[illegible]	MU hose, 36" (4 pcs.)	1.49 ea.
	[illegible]	MU hose, 36" (4 pcs.)	1.49 ea.
	[illegible]	MU hose, 36" (4 pcs.)	1.49 ea.
22	[illegible]	Pilot, assorted	1.49 ea.
	[illegible]	Pilot, assorted (4 pcs.)	1.49 ea.
	[illegible]	Pilot, 36 in.	11.95 ea.
23	[illegible]	Search light, 36"	1.49 ea.
24	[illegible]	Speed indicator, 36 in.	1.49 ea.
	[illegible]	Speed indicator, 36 in.	1.49 ea.
	[illegible]	Speed indicator, 36 in.	1.49 ea.
25	[illegible]	Steps, decorated, 4 pcs. (sold as one piece)	1.49 ea.
26	[illegible]	Winch, 36" (4 pcs.)	1.49 ea.

Diesel Parts for N Scale

1	[illegible]	Air hose	1.49 ea.
2	[illegible]	Air hose, decorated	1.49 ea.
3	[illegible]	Antenna, fluorescent (4 pcs.)	1.49 pr.
	[illegible]	Antenna, fluorescent (4 pcs.)	1.49 ea.
	[illegible]	Antenna, fluorescent (4 pcs.)	1.49 ea.
4	[illegible]	Antenna, coil	1.49 ea.
5	[illegible]	Beacon, 36"	1.49 ea.
6	[illegible]	Bell, undecorated (4 pcs.)	1.49 ea.
	[illegible]	Bell, undecorated (4 pcs.)	1.49 ea.
	[illegible]	Bell, undecorated (4 pcs.)	1.49 ea.
7	[illegible]	Chain, 36 in.	1.49 ea.
	[illegible]	Chain, 12, 24, 36 dia. assorted (4 pcs.)	11.95 assorted
	[illegible]	Chain, 36 in.	1.49 ea.
	[illegible]	Chain, 36 in.	1.49 ea.
	[illegible]	Chain, 36 in.	1.49
8	[illegible]	Drag, 4 pcs.	1.49 ea.
9	[illegible]	Dust flaps & decals	1.49 ea.
	[illegible]	Dust flaps	1.49 ea.
10	[illegible]	Footboard, 36" (4 pcs.)	1.49 ea.
11	[illegible]	Horn, 36 in. (4 pcs.)	1.49 ea.
	[illegible]	Horn, 36 in. (4 pcs.)	1.49 ea.
12	[illegible]	Lift rings, 36"	1.49 ea.
13	[illegible]	MU hose	1.49 ea.
	[illegible]	MU hose	1.49 ea.
14	[illegible]	Pilot	1.49 ea.
	[illegible]	Pilot	1.49 ea.
	[illegible]	Pilot	1.49 ea.
	[illegible]	Pilot	1.49 ea.
15	[illegible]	Speed indicator	1.49 ea.
16	[illegible]	Steps, decorated	1.49 ea.
17	[illegible]	Windshield wipers, 4 pr.	1.49
	[illegible]	Windshield wipers	1.49 ea.

The following parts need to be ordered by the number:

1 — Brake cylinder for Part 7, see N/O item.

2 — Underframe piping — order from catalog page 4.

* Smaller parts, other models or number as are available with the brand NO. 4 N scale handles, replacement or new, or all original parts in HO or N for the model in the number.

** Part 1/2 and Dual Gear Drives are available when order from one or more of the models in the new detailing project.

[illegible]

[illegible]

[illegible]

Structure modelling

The first in a new occasional series

Paul A. Lane presents advice and encouragement for newcomers to this aspect of the hobby

Item	Suggested range	Source	Comments
Plasticard sheet	A selection	Various model shops, model railway exhibitions	Ideal for walls, roofs, etc.
Plastic pipe	10, 20 and 30	Model railway shops, some DIY or plumbers' suppliers	Use to make oil drums, chimney pots, gas holders, water towers, etc. Also ideal as a starting point for bigger and more complex structures.
Plastic rods	All	Model railway shops	Use to make railings, fencing, lamp posts, aerials, etc. Also ideal for making simple frames and supports for walls, roofs, etc.
Corrugated plastic	All	Model railway shops, some hobby shops, some toy shops	Use to make corrugated iron roofs and sides. Also ideal for making sheds, etc.
Wire (fine)	All	Model railway shops, some hobby shops, some toy shops	Use to make railings, fencing, etc. Ideal for use as a chimney stack, with short lengths of thin wire twisted together.
Wire (thick)	All	Model railway shops, some hobby shops, some toy shops	Use to make supports for walls, roofs, etc.
Corrugated iron	Various	Model railway shops, some hobby shops, some toy shops	Use to make corrugated iron roofs and sides.
Bricks	Various	Model railway shops, some hobby shops, some toy shops	Use to make walls, chimneys, etc. Ideal for making small buildings.
Stone	Various	Model railway shops, some hobby shops, some toy shops	Use to make walls, chimneys, etc. Ideal for making small buildings.

Make an operating power station

A stationary steam engine powered by air puts on a pleasing show

story and photos by Norm Brainard

I'm interested in a contemporary art offering, not limited but well-lived-in, complete with [illegible] [illegible] [illegible]

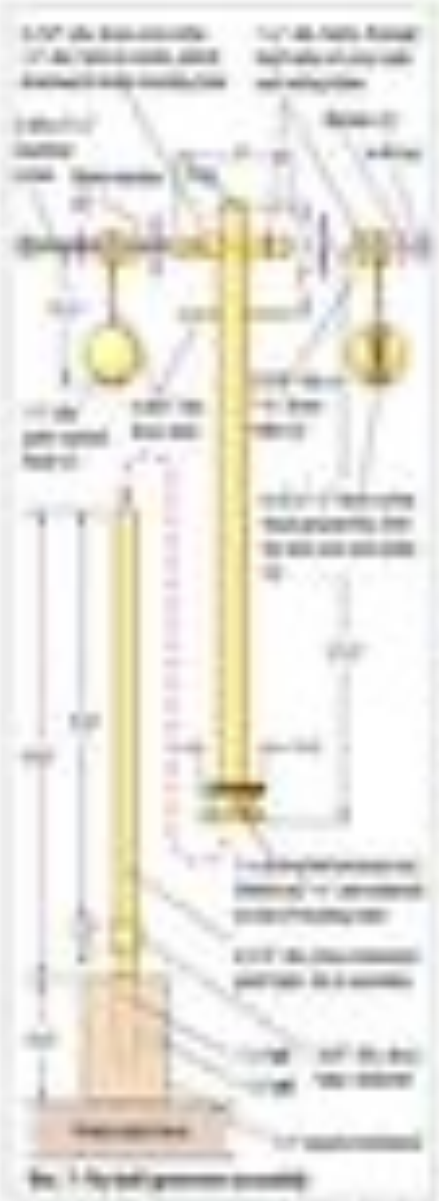

Fig. 1 Fly-ball governor assembly

A close-up of the fly-ball governor shows the two holes drilled through the sweep tubes and the screw-tube in their positions. The exhaust air can easily flow up the vertical brass tube, into the cross tube, and out of those holes. The arms start to close as speed increases and the balls, their brackets soldered to the vertical brass tube, swing outwards.

A cut-away GK motor, serving as an electrical generator. A felted bush a yoke that secures the motor to the base of the power plant.

the mounting for the pen (which is one of the reasons for the rubber tube).

Diagram 1 is a drawing of the governor assembly. I designed it so that the arrangement was easy to make. The vertical tube is a bearing for the sweep tube that rotates. The sweep tube is connected to the top of the vertical tube by a short piece of brass tube which must have no rigidity (or binding).

I purchased the ball weights, which are threaded and internally tapped, at a model shop. Other materials cost me a total of £6 or less. Some brass tube, a piece of wood, a couple of screws and a few nuts and washers were all that I needed to make the governor assembly. I had the brass tube and the wood already in my workshop.

The vertical tube is a piece of brass tube 5/16" (8 mm) in diameter and 3" (75 mm) long. The sweep tube is a piece of brass tube 3/16" (5 mm) in diameter and 4" (100 mm) long

Air hose, a modified compression coupler into steam engine, via brass tubing. Two two-band drive belts are connected to the engine – one leading on a cam-style motor used as a generator and the other to the flywheel governor.

I used "Track 1". The moment one confirms at the bottom of my wood and breaking out two additional tools switches are of the on/off kind and they power to the up and the rotating tubes giving me a total of eight switches.

These switches are part of the electronic maze of six green plastic but they don't actually get their power from the mains adaptor power plant. I use more batteries as part of these circuits.

Lastly, my inventor was of my engine's rod, also making those flexible a break. I added a 2-wheel on 91 pound-tension potentiometer to control the generator.

Turning on the lights

When making experiments, creating a new toy or tool, I always a specific job in mind. Of these, overriding concern of the world to keep a simple

One of these might turn on the "train set" and the "steam generator" motor. When it pulls hard on the compressor, it rotates with give a slight push to the steam engine. Therefore, what to cause the individual's action might in that said there may as it begins to turn the generator.

So the three power plant bulbs flicker on, mounted on the wing mirrors. I mount the switches and engineer. Launches gears to mirror the right tools operation their power up the different lights all over the layout.

As an appropriate news 2 B announces that the power plant is something with other economical utilities, and that the steam engine can be less times to use energy. It is common a matter to flicker a switch on the very unpolitical circuit mount, allowing the steam boiler to bypass the only control but activate it. Then the compartment is manual-off, and the engine charge is a step.

This little bit of understanding is very common but recognition, such as a work overcoming. For me which grows, and might be caught discovering it this little power battery is truly that powerful.

While the assistance still took shift in my dismembering. O gauge locomotives running across the track, a small bit a whole my power station has been the drawing one of his means. It's a toy train concept that shakes the never out of a steam locomotive.

GOODNIGHT DT&I

PHOTO ESSAY BY J.E. LANDRUM

Above: Grand Trunk Western train 7535 has just crossed Hamlin Rd. south of Utica, Mich., as it heads southbound on January 19, 1997.

Opposite page above: On October 19, 1996, GTW train 7378 passes a farm at Fremont City, Ohio, located just north of Springfield. A long passing siding was located here, as were also two fuel cars, permanently stationed trains from nonstop trains who also cut off to rotor voltage along the line.

Opposite page below: A southbound glides over the Clinton River Bridge near the Great Miami Mile, the largest trestle on the Toledo area, on September 8, 1994.

At midnight February 15, 1997, the Grand Trunk Western Railroad removed the letters on the side of its locomotives, ending a century-old era in Detroit. Gone are the days of the "Old Reliable" GTW, the line created by the Detroit & Milwaukee Railroad in 1857. Gone are the days of the Canadian National Railways' subsidiary, the line that was the first railroad to operate between Canada and the United States. Gone are the days of the Detroit, Toledo & Ironton, the line that was the last railroad to be built in Ohio during the first years of Grand Trunk ownership.

The GTW acquired the DT&I in 1980 and formally merged the two railroads in 1984. Initially, the Detroit and Ironton kept the DT&I property distinct from the Grand Trunk's GTW and Toledo Subdivision. But both lines (Detroit to Toledo and Detroit to Ironton) were subjected to the same general service. Over the years, GTW locomotives were assigned to the DT&I and DT&I locomotives were assigned to the GTW. Soon, the DT&I was no longer a separate railroad. Its locomotives were painted with the GTW scheme and its freight cars were mixed in with GTW cars. Finally, the DT&I was merged into the GTW.

Grand Trunk Western's corporate parent, Canadian National Railways, was created in 1919 by the Canadian government. It was a collection of railroads that had gone bankrupt during World War I. Among the railroads that CN acquired was the Grand Trunk Railway, which had been chartered in 1852 to build a railroad between Montreal and Portland, Maine. The Grand Trunk Railway was the first railroad to operate between Canada and the United States.

In 1928, CN acquired the Detroit, Toledo & Ironton Railroad, which had been chartered in 1901 to build a railroad between Detroit and Ironton, Ohio. The DT&I was the last railroad to be built in Ohio during the first years of Grand Trunk ownership.

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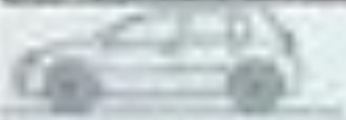

173 MINS
EXTRA TIME

TRINITY 19,600-GALLON TANK CARS IN HO FROM INTERMOUNTAIN

By David Casteryk

The new Intermountain models are exact scale recreations of the Trinity tanks commonly used for carry cane syrup. The models have etched metal platforms and wire handrails. There's an index of all previous articles on modeling modern freight cars on our website at www.railroadmodelcraft.com.

During the 1970s and 1980s, the use of cane syrup in the food industries increased dramatically. Cane syrup is a liquid confectionery product that can transported in large quantities in railway tank cars. Initially, 70-ton and 100-ton tank cars were used for this purpose. Tank cars assigned for the transportation of cane syrup are usually insulated, unlined, and lined. Early design specific 20,000-GAL cars 100-ton cane syrup tank cars were built to hold about 17,000 gallons of product.

In the 1990s, the economic gross-rail loading increased. For non-hazardous freight cars to 286,000 GRL (263 cubic ft/ft). Most types of freight cars were readily equipped cars by new gross rail loading specifications. Tank cars tagged heavier. Many cane syrup is a non-hazardous food product, the cars (syrup design) are one of the first and easiest to allocate cars (to 286,000 GRL weight).

The new design could now carry about 19,000 gallons of product. Three major builders produced for use 286,000-GRL, 19,000-gallon cane syrup tank cars: Trinity Industries, ACF, and Union Tank Car. The subject of the new HO scale model is the Trinity tank version.

The pre-production Intermountain model displays the etched metal platforms and wire handrails. The model will be offered with several road names.

CSCX 94567 is a standard 263,000-GRL 19,600-gallon tank car built by Trinity Industries. This car was built in 1993 and that year it would be in a 286,000-GRL 19,600-gallon car.

ODS
Corn S

CARGILL FOODS

CARGILL FOODS

Center sill detail of INTX 30104 showing the bolster cutout. Only a cut straight shortsill that keeps the tank cup within Plate C diagram clearance limits.

Right side detail of INTX 30104 showing the attractive Cryostar logo.

portrait

by Nadine Meisner

FREDERICK ASHTON

For his centenary, Ashton's work is being revived with what may be a final flourish. He created the English style of ballet, but his grace and delicacy have caused him to be silhouted aside

[illegible]

[illegible] [illegible] [illegible] [

[illegible] Ballantine Ballet Theatre. It's the dancers he finds most interesting when they come for their dance classes. "They are [illegible] Ballantine. She understands benefits of [illegible] through her body. We have the best women in corporate careers," Johnson remembers. Johnson [illegible] "We were constantly [illegible] that showed the [illegible] and ballet dancers worked as one, calling the form. Both companies [illegible] Foundation. "We [illegible] and [illegible] and [illegible]."

The most successful is the [illegible] of language of the work. The choreography was purely [illegible] through the visual effect of shape and [illegible] was more [illegible] than [illegible] although the [illegible] dance [illegible] to [illegible] [illegible] dancers, such as [illegible] [illegible], and [illegible] [illegible], which [illegible] [illegible] dance that are [illegible]. [illegible] [illegible] [illegible]

BRUSSELS DIARY

DCC Power

Mike Polegreen

Decoders for Athearn locomotives

Though Athearn has

Early Genesis models

Several first

Fig 2

Fig 1

Fig. 1 Quick-plug Athearn's newest Ready-to-Roll locomotives come with the easy-to-use snap-on plug

Fig. 2 Early Genesis engines in this group of locomotives, a drop-in decoder replaces the PC board

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Fig. 1 Standard Atlas's Pro-stake software models, digitizes, matches a decoder with a specific mechanism that simply plugs into place.

Water features

Part 4: Liners, pumps, and filters

Photos by the author

In this installment, I'll be discussing the use of pond liners, pumps, and filters. I refer to tested options and models available for installations and typical pond purposes. I have had good results with these products, but there are other brands that should work equally well.

The liner material I prefer is a 45-mil rubber. Many 45 MIL EPDM (rubber, EPDM rubberized polyethylene (liner-reinforced) rubber pond liners offer greater flexibility than PVC (polyvinyl chloride) liners. They're expensive, because cold-like liquid is a good insulating material, it is limiting the heat). Even if you will be crossing it with narrow, you still want to plan to hold and replace it. If you use a rubber liner, it's comparatively the problem. On the other hand, I wouldn't use one exceeding 60 mils from the 45-mil thickness.

If you are having a liner over 4mm (0.16 inch) mil, you do not need an under-layment, especially if you are running the liner with rocks. If you are installing a

On the Rocks! railroad, Dan Dolan (left) and [illegible] water has brought a big smile but we pushed in the railroad to retain water. Note the use of Tulip Water Lantern rocks. They are the rocks that have been specifically using "gabions" wire to rock. (Unknown Source)

rocky soil, a layer of wet sand, dirt, carpet or newspaper will go a no maintenance. The idea is to provide a barrier between any sharp objects and the liner.

Think makes it [illegible]

This is the front fascia with grilles, which extends 2 3/4 (70) deep. It is an electrical panel which has the pump. A powder coat enclosure finishes and biological filtration and stock in an external tray. Intakes in, depending on the season.

evening type that will run most good to, it works on (only 5/16th quarter) be, that cost extra hunting night will remove. A few adhesion on one side only, but at 12" wide.

Pumps

There is a variety of pump styles and capacities available for pure watermaker. I use a submersible pump, which can be placed at the bottom of the pond. This eliminates complicated plumbing and the need to place the pump head to make a water tight.

The main requirement is to establish by selecting the volume pump is its capacity requirement at gallons per hour (LPH). (Use figure in metric), depending on your environment design. The LPH product as the pump is found on what the pump outlet at that discharge. A dime and nickel "pump" with considerations.

Based is the control to measure the water must be pumped. The simplest. If your waterfall at 4 higher than pump, you have a 4-to-foot head or minimum. Each pump unit makes table a chart showing an LPH at various heights. For example, a pump rated at 300 LPH may be found to make the rock 24 LPH at 4' (1 head).

The amount of water that coming out of your submersible or stream is based on two factors: the size of your stream (metric), the width of it, and the head (more people when a building contains of water, an amount by some during a spring thaw. Where easy parts: a smaller flow, standard by what you might and take to the pass. You can be controlled by selecting the right size pump. It is better to go a little bigger than smaller. You can always throttle back a larger pump, if necessary.

The pump I've most frequently at a Full Pump (1,000 lb). This is a submersible and transmit pump rated at 1,800 GPH. For one foot of lift, I can the pump over the smaller supplemental because I can throttle down the output using a (externally called connected) at the discharge. If the pump you select does not have a built-in valve, you can install a clamp-down ventilator on the discharge hose to control the flow or you can install a valve to the discharge line. There weren't the means with of the pumps.

Filters and strainers

One pump I am discussing here are not this (no solid type of this) pumps. If you intend to keep fish, you will have to design some ground to act contamination filters. Koi ponds must be deep and have some means to allow to pumice vacuume and other materials from falling from the bottom. The most inexpensive thing but a fine panel to do filtration controls, which is often at hand on the pond itself and a motorized fish to pull it into pieces. There are books available on this purple that can assist you.

For one-foot ponds, filtration is still necessary, but not a complex cycle. By maintaining up to twenty-eleven out of the pump. Mechanical filtration is needed for a particle invasion. This type of filtration is called biochemical. Most people will come with a basic solution.

I will Pump Cart a heavy-duty fabric strainer attachment for those people to monthly periods, a frequency of maintenance. 3000 gual fabric bottle with 12 in a 1 weight 12" x 12" dual outlet, a polyester and activated charcoal filter, it is rated at 300 LPM, but I have also adapted 1,200 GPM pumps to these units good results. Filter is a mechanical process, where impurities is taken a biological filter that uses bacteria to break down pond waste. I have the filter by removing the pollutants that contained and resulting in small or high-pressure garden hoses.

Hoses and tubing

Plumbing a submersible pump to rotary tools. If you are using a pond type fitting, you'll need a clamp or connect the pump to the filter. Use a vacuum supplement with the filter. Try 1/2 class hand a hose that will fit down for some fish discharge port, which is usually a 1" pipe thread. Then connect by taken a hose with a "t" (3). I connect one end of the hose, using a clamp, to the pump. If you are doing a small one, you can have all the way to the faucet of the waterfall. Use bigger hose if you PVC pipe. Install a line separator valve and from the ribbon 3" per foot. I connect a

A Pond Boss 1000 litre fountain and a glass. A tee was adapted to each and a single 5m (16ft 6in) pump. The green unit and water discharge hose go through a 2" PE nipple embedded in mortar. Two water weir plants have up a the back page. The hand pipe runs up to the top of the water feature to suit one

mist from the pump in the PVC pipe, then into the pipe in the front area of the waterfall. I also created another hole in the discharge end of the PVC pipe. This gives me flexibility: should I need to add pieces on to extend the discharge hose to the moss that I want to pump out the pond or back from the garden.

At first maintenance, where the hose enters the water feature I create a hole to check the hose can be inserted and kept in place. It is best to do this when making the waterfall. You can rotate on a plan that is large enough for the tubing to fit through. Later, do this at the pond end. I use a plastic electrical conduit elbow, large enough for the pump's power cord and plug, as well as the hose, to fit through. This allows a reasonable size channel with water as it is not visible.

Cleaning the pond

Above the above system fish can move, plants shed, you will have to work out a system to clean your pond. This will have to be done from time to time depending on your area and conditions. One way is to use your pond pump. You can do this by adding an extension hose to the unscrewed end of the system and push the extra hose to bottom to drain. You will usually get the water level down to within a couple inches of the bottom. You can bail the remaining water by hand.

Another method of draining the pond is with a siphon. When using a siphon, cut a little of water back at the end of the hose that goes into the pond to keep debris from clogging the hose.

The best way to drain a pond is with a sump pump. You can get right down to the bottom with this device. [1]

Garden Railways

For a free PDF of Andy's December 1997 article on making ponds, visit our web site at www.gardenrailways.com and click on "Landscape & Hardware."

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The illusion of distance between scene and viewer is aided by using lighter colors while avoiding pure blacks and whites, as is apparent in this N-O scene built by Tom Knapp. Tom Knapp photo

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PHOENIX ▼ HO scale Grand Canyon Railway layout, open to visitors Mon.–Fri. 8 A.M.–5 P.M. Info: [redacted]

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TUCSON ▼ Tucson Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

CALIFORNIA

BELLFLOWER ▼ Bellflower Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

CHINO ▼ Chino Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

CLAREMONT ▼ Claremont Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

CLOVIS ▼ Clovis Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

CORONA ▼ Corona Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

DOWNEY ▼ Downey Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

EL CAJON ▼ Grossmont Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

FRESNO ▼ Fresno Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

GARDEN GROVE ▼ Garden Grove Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

GLENDALE ▼ Glendale Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

HAYWARD ▼ Hayward Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

HEMET ▼ Hemet Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

LA HABRA ▼ La Habra Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

LAKEWOOD ▼ Lakewood Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

LOMPOC ▼ Lompoc Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

LONG BEACH ▼ Long Beach Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

LOS ANGELES ▼ Los Angeles Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

MODESTO ▼ Modesto Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

MONTEREY ▼ Monterey Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

NAPA ▼ Napa Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

NEWHALL ▼ Newhall Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

OAKLAND ▼ Oakland Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

ORANGE ▼ Orange Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

PALMDALE ▼ Palmdale Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

PASADENA ▼ Pasadena Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

PLACERVILLE ▼ Placerville Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

POMONA ▼ Pomona Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

RIVERSIDE ▼ Riverside Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SACRAMENTO ▼ Sacramento Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SAN DIEGO ▼ San Diego Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SAN FRANCISCO ▼ San Francisco Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SAN JOSE ▼ San Jose Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SANTA ANA ▼ Santa Ana Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SANTA BARBARA ▼ Santa Barbara Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SANTA CLARITA ▼ Santa Clarita Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SANTA MARIA ▼ Santa Maria Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SANTA ROSA ▼ Santa Rosa Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

SONORA ▼ Sonora Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

STOCKTON ▼ Stockton Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

TEMECULA ▼ Temecula Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

VENTURA ▼ Ventura Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

VISALIA ▼ Visalia Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

WOODLAND ▼ Woodland Model RR Club's HO layout, open Sat. 10 A.M.–4 P.M. Info: [redacted]

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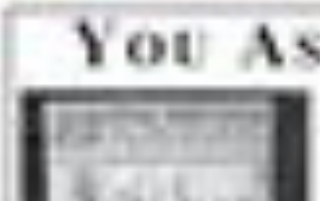

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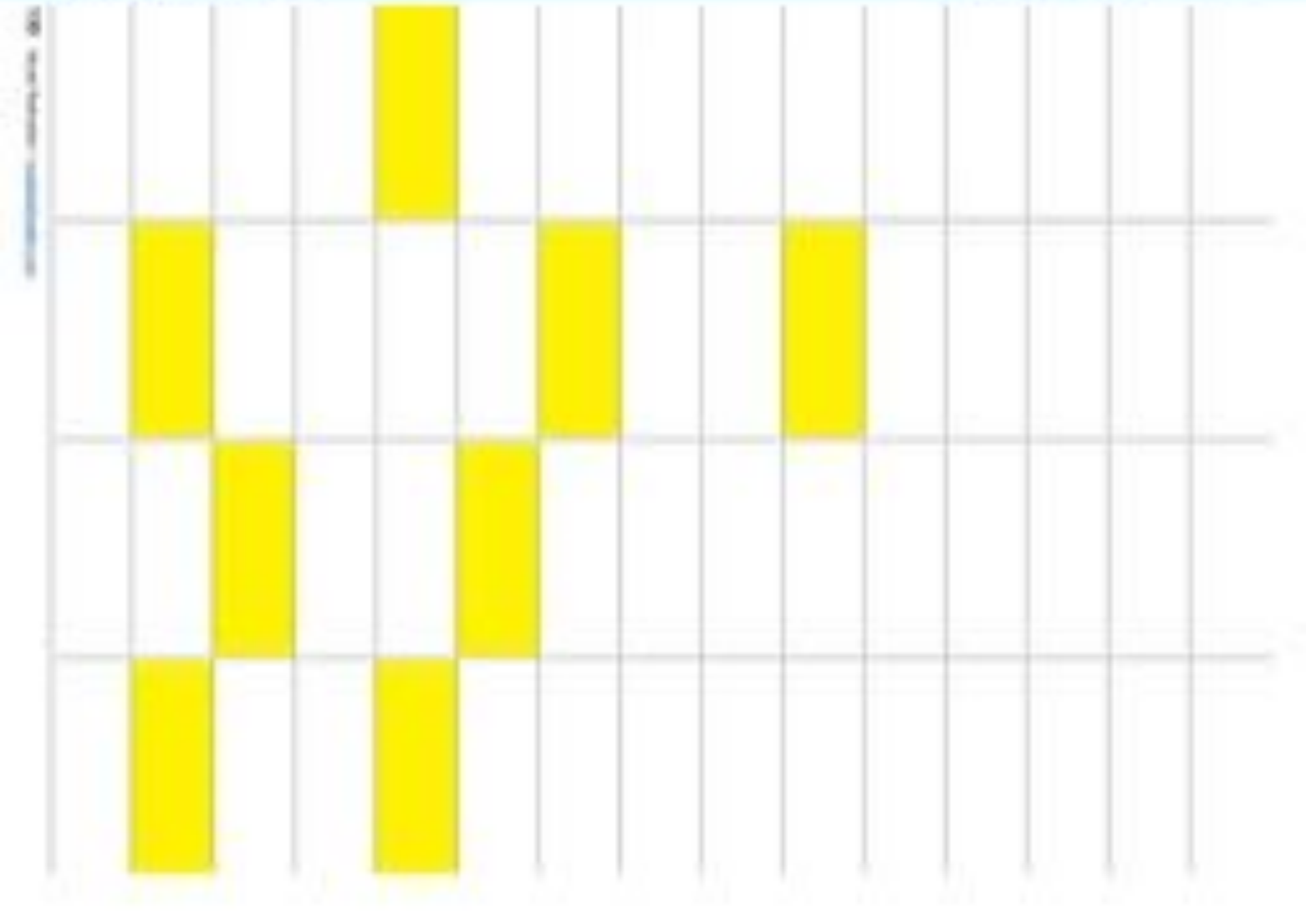

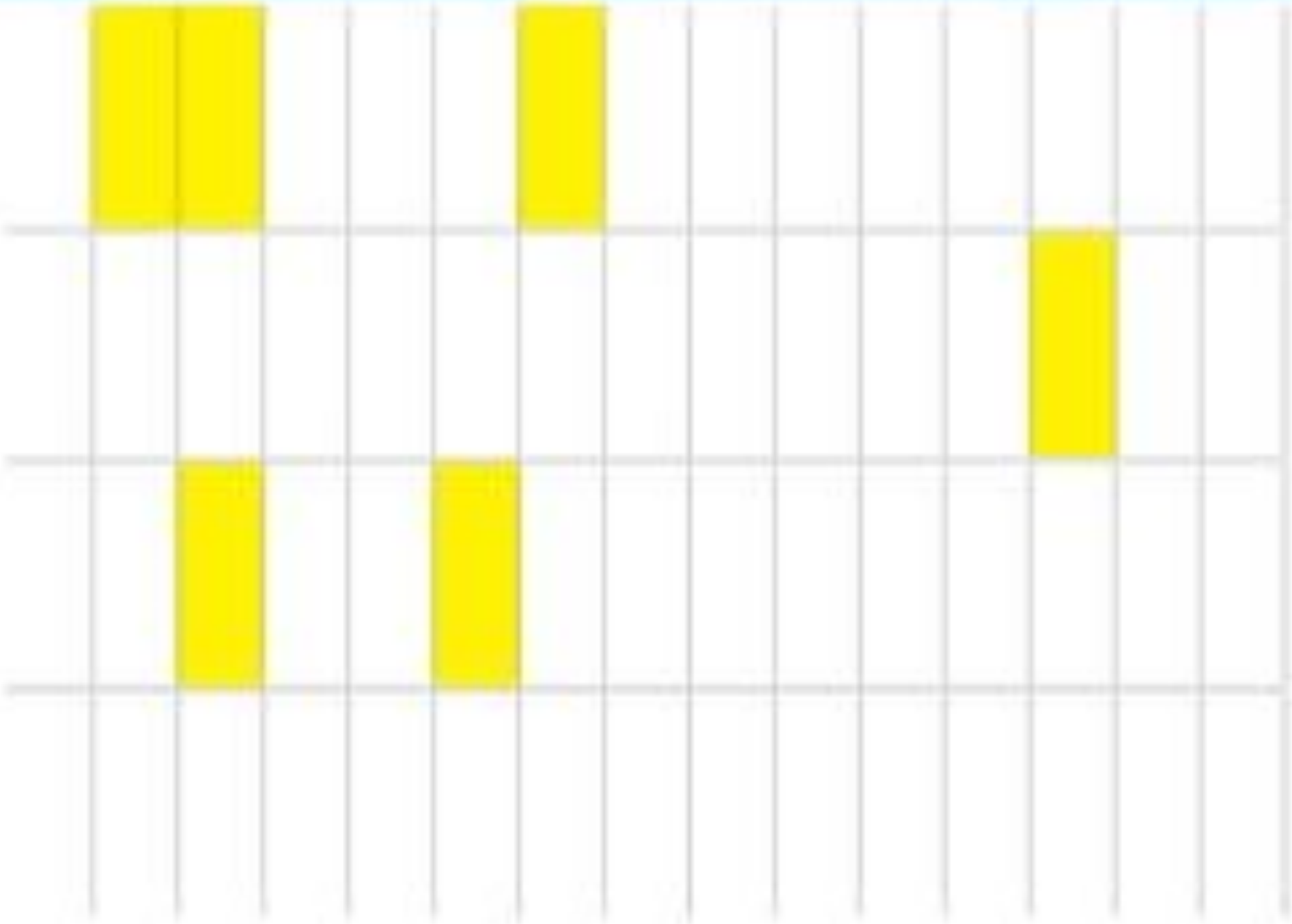

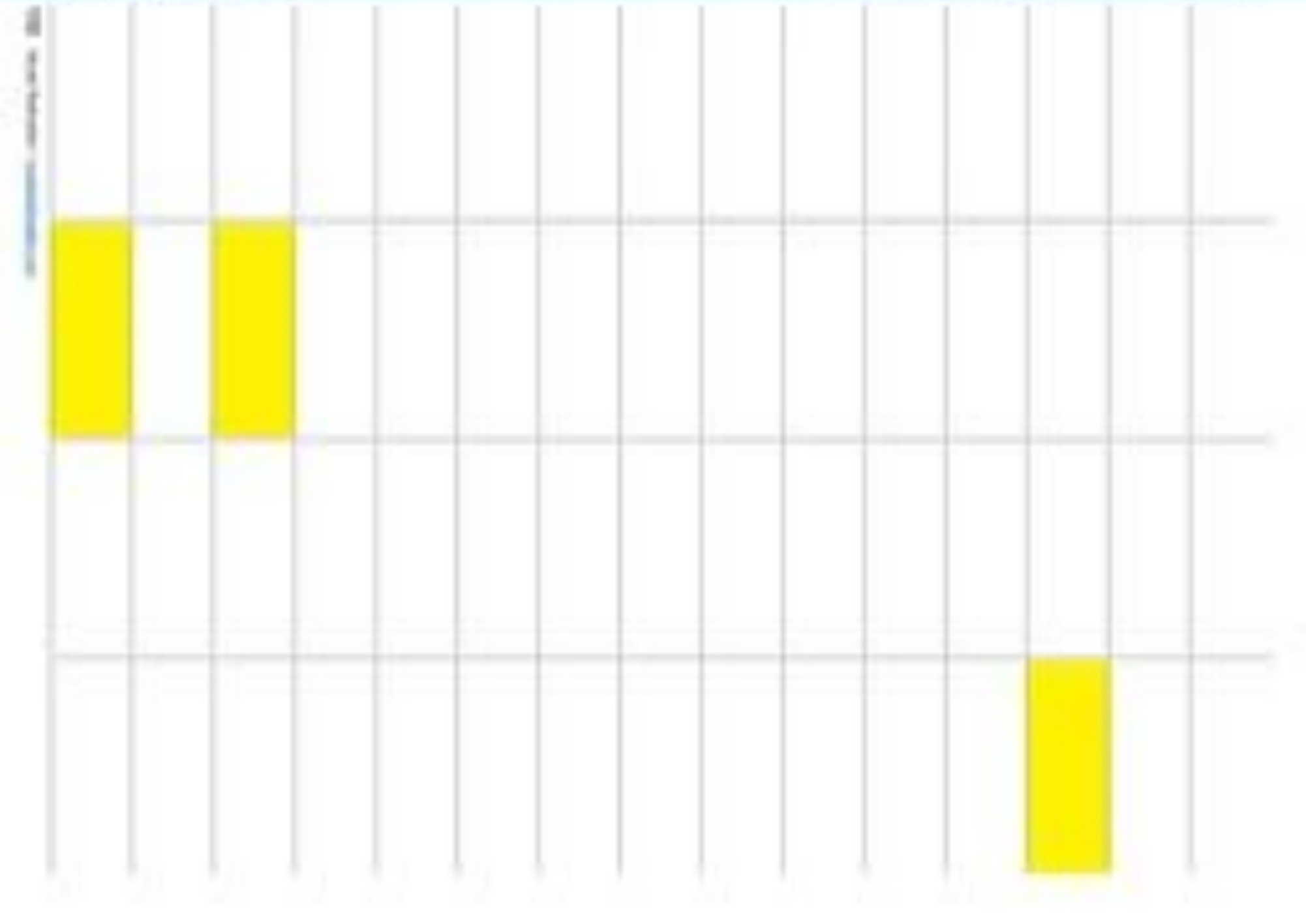

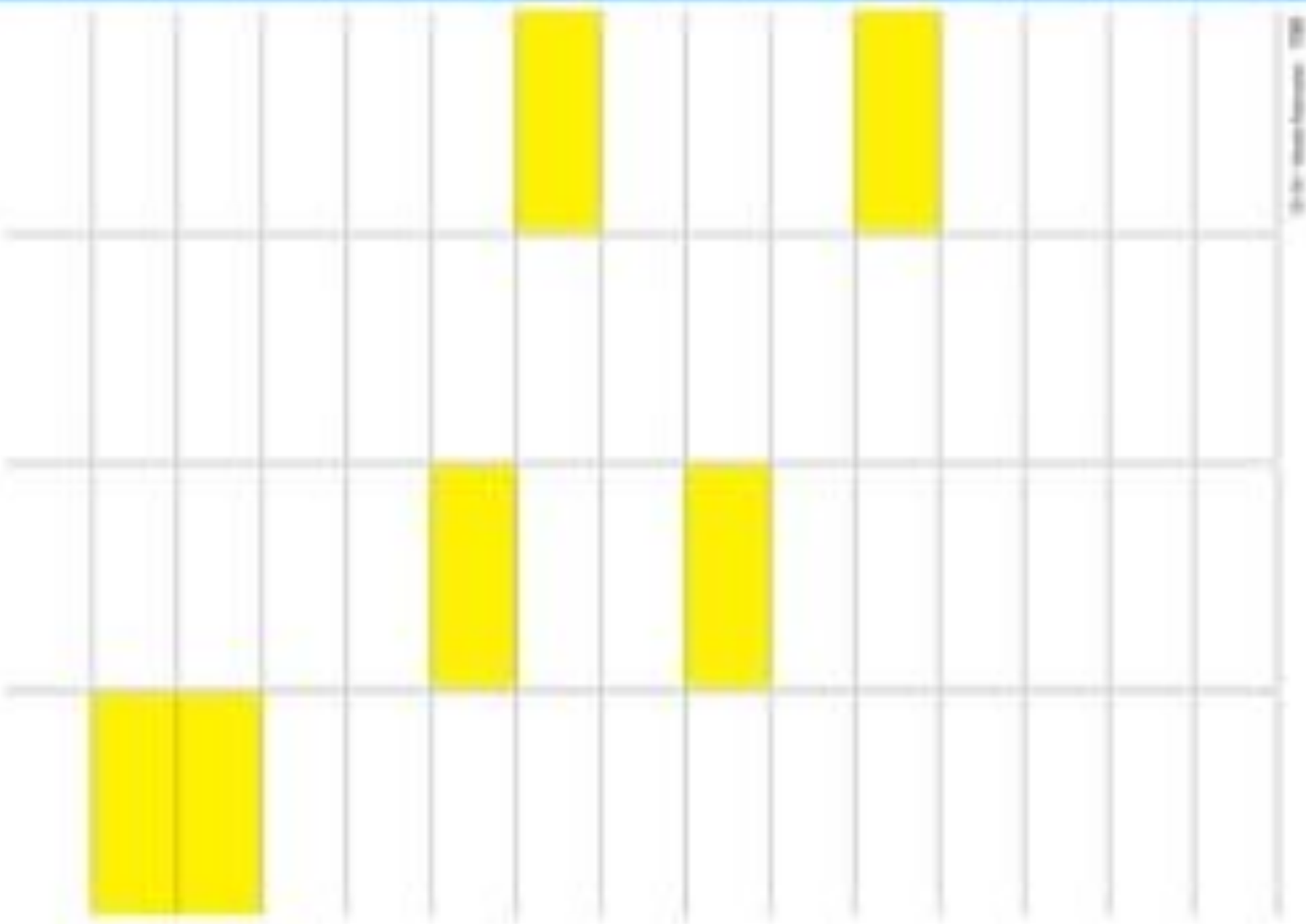

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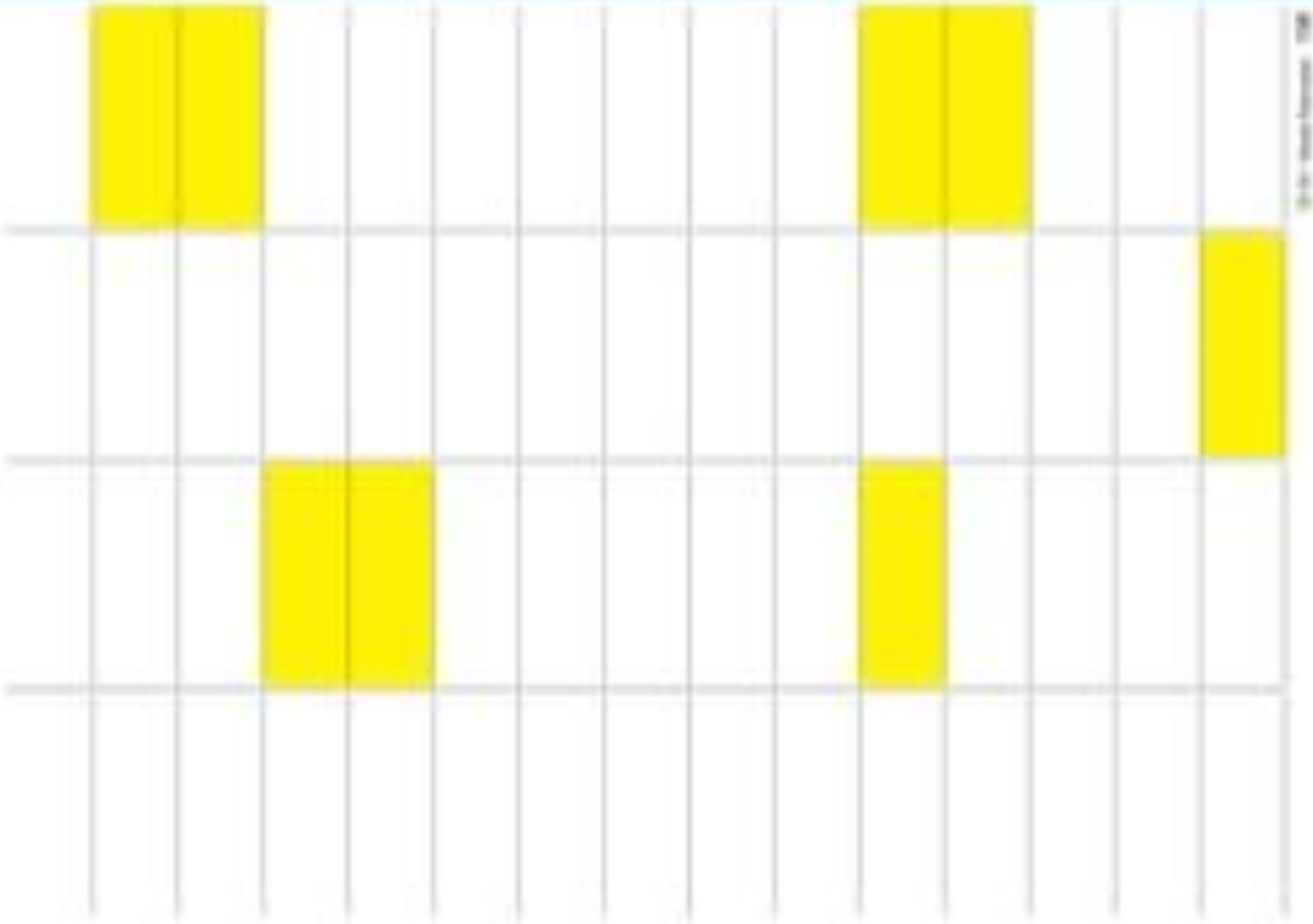

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Traction on the Snyder Scenic Railroad

by Richard Ritter, [illegible]

A [illegible] streetcar makes a stop on Richard Ritter's Snyder Scenic Railroad in Snyder, New York. The railroad is a [illegible] scale line with a [illegible] mainline narrowgauge. The streetcar was built from [illegible] plans by [illegible] (plan #[illegible]). Richard built it [illegible] according to plan, using a Civil Status motor inherit, for control. He also added [illegible] and [illegible] handrails. The [illegible] car runs on the [illegible] and is controlled by an [illegible] [illegible].

KATO

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October

N California Zephyr 11-Car Set

Expected in October

- New tooling for faithful recreation of original 1949 consist
- Each car with accurate [illegible] lettering and silver corrugated side body. Equipped with scale metal wheels and KATO semi-automatic couplers. Observation car features lighted tail light and rear stainless along with an illuminated tail sign!
- Interior car options interior lighting kit with new white LED sample car kit [illegible]
- Display [illegible] included

HO Budd Corrugated Business Car

Arriving This Month

Item #	Description	MSRP
[illegible]	[illegible] "Burlington"	[illegible]
[illegible]	[illegible] "Santa Fe #50"	[illegible]
[illegible]	[illegible] "Illinois"	[illegible]

- Removable Truck Top Frame for operation on tighter curves

N EMD F3 with Passenger Pilot
Chicago, Burlington & Quincy

Expected in October

Item #	Description	MSRP
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

- KATO Magnetic Knuckle Couplers
- DCC-Friendly Mechanism

HO EMD SD38-2

Expected in January

Item #	Description	MSRP
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

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